The Eagles' Nest — By Jasper F. Cropsey — 1823-1900

The New York State

Conservationist

June-July 1958

State of New York Conservation Department

"Toilers of The Sea"
By Seneca Ray Stoddard, Glen Falls, 1893

Public service and servants

(On the following pages, The Department presents its views on the Forest Preserve. We hope you will read these pages. It's *your* Forest Preserve, and as the administrators of it we have done our very best to express our thinking on various problems concerning it. But the decision rests with you.)

•

Much, perhaps too much, has been said lately about the hazards and discouragements of public service, and too little of its rewards.

As to the hazards, of course it's true that any person who chooses to work for his government, either state or federal, and who is willing to stand up and say what he thinks —that person is leaving himself wide open; he must expect opposition and criticism. But in addition he may be in for unwarranted persecution and personal abuse—including the impugning of his motives, distortion and misrepresentation of his statements, public exposition of personal matters, etc.—and it has been said repeatedly that the prospect of such treatment, or the actual experience of it, has discouraged good people from entering or continuing in public service. No doubt that is also true.

But we think a realistic appraisal of public service would reveal that all these things are occupational hazards for any government employee who speaks his mind, and that they have been such ever since the democratic system was devised. That is not to say that the persecution of public servants is permissible. But certainly it is expectable, and we doubt if any really good man has been turned away from public service by the threat of it. You go into government work with your eyes wide open, and there's not much excuse for complaining afterward and protesting injured innocence.

There is no denying, however, that for anyone in or entering government work the horizon is unnecessarily, inexcusably dark. Then why do people go into public service? Surely there must be rewards to compensate.

There are. Not material, but nevertheless very real. Chief among them is the satisfaction derived from an honest effort to make the world (or even so small a corner of it as our Forest Preserve) a better place to live in. People who work in the field of Conservation have a unique opportunity to do that; there is so much unexplored ground, so much that can be added to the pitifully small knowledge of our relationship to our natural environment.

But in Conservation, as in other fields of public service, there are two courses of action open to the public servant: sit back and shut up and just ride along—or stand up and speak your piece, believing that in doing so you're doing the right thing. As we see it, the rewards of public service go to those who stand up and speak their piece. —Editor

The New York State
Conservationist

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Views on the Forest Preserve

Hon. Wheeler Milmoe, Chairman
Joint Legislative Committee on Natural Resources,
Capitol Building, Albany

May 5, 1954

Dear Wheeler:

In response to your request of some weeks ago, I enclose herewith a statement of this Department's views on certain matters relating to the Forest Preserve.

Although the Conservation Department has been represented at all of the meetings of your Special Advisory Committee on the Forest Preserve, we have hesitated to express our opinions, except as asked for, lest it appear that we were trying to influence unduly the deliberations of the Committee. Even now, the enclosed statement is submitted only because you requested it, although its preparation has been a welcome task and has served to clarify our own thinking on the subject of the Forest Preserve. I hope it will be of similar value to the members of your Committee.

We have learned much at the meetings of your Committee, and expect to learn more as the meetings continue. The enclosed statement, prepared by various members of my staff, represents the views of the Conservation Department in the light of information presently available.

Perry B. Duryea, Commissioner

Background

Using its magazine, THE CONSERVATIONIST, as the best available means of reaching the public, in October, 1951 the Conservation Department suggested a re-examination of administrative and operative policies regarding the Forest Preserve. (Since 1895, such policies have been prescribed largely by what is now Article 14, Section I of the State Constitution.) In suggesting this reappraisal, the magazine concluded as follows:

"We advocate nothing more than a deliberate, sensible, foresighted approach to the right answers. It is our job to help with the answers, but since this is a democracy, the decision rests with the people and their elected representatives."

As the legally designated custodian of the Forest Preserve, the Conservation Department recognized an obligation to present to the public not only factual information about the Forest Preserve which it had accumulated over the years, but also certain opinions of the Department as to how this information might be applied to improve and develop the management of this public property. Accordingly, such information and opinion were presented to the public in subsequent issues of THE CONSERVATIONIST. As was expected, the publication of this material resulted in a general discussion —often heated but in general, healthy —which extended far beyond the pages of the magazine. In fact, the discussion became so general, and was recognized to be of such importance, that it was eventually referred to the Joint Legislative Committee on Natural Resources. The Chairman of this Committee, Senator Wheeler Milmoe, in May, 1952 appointed a Special Advisory Committee on the Forest Preserve which, with an appropriation provided by the Legislature, undertook a comprehensive study of the entire question of the Forest Preserve.

To date, the Special Advisory Committee (usually known as the Milmoe Committee) has concerned itself almost entirely with the accumulation of information and facts having to do not only with the Forest Preserve, but with similar properties in other states. Since the studies of the Committee are still in progress and will continue throughout the current year, the Committee has not as yet made any specific recommendations. Significantly, however, it did sponsor five bills at the 1954 session of the Legislature designed to better protect the State's vested interest in certain Forest Preserve properties on which the State's title has been subject to challenge by private interests. These bills were approved by the Legislature, signed by the Governor, and are now law.

The work of the Milmoe Committee is now entering the final phase, in which it will be necessary to appraise the information collected, and interpret it, preparatory to making specific recommendations. To expedite this phase of the work Senator Milmoe has called upon this Department, as the administrative agency in charge of the Forest Preserve, to express our opinions as to what should be done with regard to each of the major problems previously discussed and studied by the Committee. We do so now.

Detached Areas of the Preserve

Included in the Forest Preserve, but outside of the boundaries of the Adirondack and Catskill Parks, as defined by the respective Blue Lines, are 524 separate parcels of land, totaling approximately 33,000 acres. Most of these parcels were acquired by the State through tax sales or through the Comptroller's foreclosure of Federal Mortgage Loans; until 1926, State law provided that these parcels, since they were located in Forest Preserve counties, must become and remain a part of the Forest Preserve, subject to all the provisions of Article 14, Section I of the Constitution.

Most of these small parcels, some of them twenty miles or more from the nearest State holding, have contributed little more than bills and administrative

headaches. Each one of them must be surveyed, protected from trespass, assessed and taxed.

The Department can see no reasonable or even possible justification for continuing to classify these detached areas as a part of the Forest Preserve. We strongly believe that it would be in the interests of the people and of a better Forest Preserve if most of these properties were sold and the proceeds applied to the acquisition of more desirable properties within the Adirondack and Catskill Parks. In the opinion of the Attorney-General, such procedure would require a constitutional amendment. Such an amendment, however, should also provide that in instances where these detached areas are large enough, appropriately located, and otherwise adaptable, they may be retained in State ownership for use as State Forests or other worthwhile State purposes.

Highways

The Department strongly opposes the building of any new highways through the Forest Preserve unless such highways are authorized by specific constitutional amendment.

Improvement of existing highways, however, is a different matter. It should be remembered that such highways, in both the Adirondacks and Catskills, were originally laid out for horse and buggy travel; to improve, straighten, and otherwise render them more safe for modern traffic would appear to be in the public interest. However, the Constitution provides that "they (Forest Preserve lands) shall not be leased, sold, or exchanged,

or be taken by any corporation, public or private, *nor shall the timber thereon be sold, removed or destroyed.*" Because of this prohibition, whenever the Department of Public Works has applied to the Conservation Department for a permit to improve any highway running through Forest Preserve lands, the Conservation Department has had to turn to opinions of various Attorneys-General for guidance. These opinions have quite consistently held that the Department could not legally give a permit where there was deviation from the existing rights-of-way, or where "a substantial number of trees" would be cut from Forest Preserve lands.

The effect has been that it has been almost impossible to properly modernize and improve Adirondack highways. A specific illustration of this problem is furnished by a current application from the Department of Public Works for a permit to improve the highway between Aiden Lair and Newcomb on the North Creek-Long Lake road in Essex County. This section is presently dangerous and the need for improvement is incontestible. This Department has carefully examined the Public Works proposal, believes it to be sound and would like to approve it, but in view of the foregoing it must again turn to the Attorney-General for guidance. And if the opinion rendered in this instance follows the thinking expressed in previous opinions, it appears doubtful that safety measures and improvements can be carried out as planned.

(It is important to note that where the Conservation Department cannot issue a permit for an improvement which will meet national safety standards, our State is deprived of Federal aid to which it would otherwise be entitled.)

The Department believes that there should be a specific constitutional amendment to permit the improvement of existing highways according to accepted safety standards. Such an amendment should also make adequate provision for any north-south Thruway which may be laid out on the eastern edge of the Adirondacks, and any Thruway such as presently planned on the western edge of the Adirondacks. The location of these Thruways should be specifically designated and approved.

Power Lines

The Department doubts the wisdom of building any new high tension lines across Forest Preserve property unless provided for by specific constitutional amendment. With the disappearance of the horse and buggy, however, went also the oil lamp and the gas light, and we believe that the citizens of Adirondack and Catskill communities are as much entitled to proper electrification as citizens elsewhere in the State.

We are not in a position to know what the specific needs of these communities are, or will be, nor how they can best be met, nor what effect the development of power along the St. Lawrence River will have upon Adirondack communities. Such information will be required before any final decision is made as to the best means of meeting the power requirements of Forest Preserve communities.

Nevertheless, an immediate problem exists: The Department is not authorized at the present time to grant permission to cut trees on Forest Preserve lands in order to maintain and improve existing power facilities. Opinions by Attorneys-General on this subject have provided no specific direction to the Department as an administrator. The Department recommends a constitutional amendment authorizing it to grant permits for the trimming and cutting of trees which interfere with the construction and maintenance of service lines.

Recreation

Recreation is now the most important use to which the Forest Preserve is put. Each year more than a million people use the State's public campsites; thousands more use the trails, leantos and canoe routes established by the Conservation Department. It seems strange, therefore, that Article 14, Section I of the Constitution makes no provision whatever for the development of recreational facilities in the Forest Preserve.

In spite of this fact, the Conservation Department has built campsites, trails, parking areas, bath houses, water systems, dirt and paved roads, bathing beaches, and administrative buildings. These recreational developments have met with the general approval of the public, and have been supported by various opinions of Attorneys-General. This being so, the need for a Constitutional amendment may be questioned; as one writer put it, "Since all of these things already exist in the Forest Preserve, and more of them can be had if approved by the people under the present Constitution . . . . ." why the necessity for a constitutional amendment?

The fact is that none of these things has been "approved by the people under the present Constitution." On the contrary, a strict interpretation of the prohibition against cutting trees in the Forest Preserve, if it had been adhered to over the years, would have precluded the development of almost all of the facilities of this kind which we now have.

We have been told that when the decision was first made to develop public campsites, it was justified from a legal point of view on the basis that campsites were a necessary means of fire control, the theory being that if people camp under supervision they will be less apt to start forest fires. Recreation has now grown to the point where it is a travesty to try and justify it solely on the grounds of fire control. In the future, to a large

extent, it must stand on its own merits.

The Department believes that the State, in its most fundamental law—the Constitution—cannot afford to remain silent on such an important matter. Not only is the present situation extremely precarious—one court case could conceivably force the closing of all campsites—but no direction has been provided to the Conservation Department as to how far it may go in the development of future recreational facilities, and where. We believe that the wilderness character of the Forest Preserve can best be maintained by the passage of a constitutional amendment which would place a firm legal foundation under existing recreational facilities, and also provide direction for the establishment of such additional facilities as may be required in the future. We believe that the present generation can probably make its greatest contribution to wilderness recreation by laying the groundwork for it in the Constitution, in law, and in long-range recreational development plans for a better use of the Forest Preserve for future generations.

Fire Prevention and Control

The most serious potential enemy of the Forest Preserve, with the possible exception of insects and disease, is fire. To meet this danger, the Department has constructed closed Ranger cabins, fire truck trails, telephone lines and other facilities essential to the detecting and suppression of fire. Although the right of the Department to construct and maintain such facilities has never been successfully challenged thus far, the fact remains that there is nothing in either the Constitution or statute law to permit such work. Here again, it has been necessary to rely upon opinions of Attorneys-General.

It may appear that the authority contained in such opinions is sufficient, but the fact that it is not has been clearly demonstrated by the recent controversy over the building of access roads. To combat fire in typical forest Preserve terrain, it is necessary to move men and equipment in the shortest time possible to the scene of the fire. This in turn requires the building of suitable roads. Yet, in the absence of any specific directive in the law, the Department has no alternative but to make an arbitrary decision, according to its best judgment, as to when, where, and how such roads may be built.

There is nothing new about the controversies which such decisions provoke. In the early 30's, when the Department used CCC labor in the construction of many fire truck trails and access roads, it was necessary for the Governor to appoint a special committee to review the matter. And today, the Department is being bitterly attacked from some quarters because of its attempts to make large sections of the Adirondack blowdown accessible to fire fighting crews.

It appears to the Department that a constitutional amendment, permitting the Department to construct and maintain adequate fire fighting facilities in the Forest Preserve, would be highly desirable, would eliminate many of the administrative doubts and difficulties which must be faced at the present time.

River Regulation and Flood Control

The problem of river regulation and flood control in the Forest Preserve has been considered and acted upon as a separate problem, rather than as a part of the over-all Forest Preserve question. In the 1953 election, the people voted in favor of Amendment No. 9, usually known as the Ostrander Amendment, and that amendment is now a part of the Constitution. It provides that any impoundment of water in the Forest Preserve, except for the purposes of water supply, must be approved by specific constitutional amendment.

In other words, basic public policy, including a definite system of procedure, has already been established for the handling of this particular Forest Preserve problem.

Forestry

Obviously, the Conservation Department believes in forestry—for public lands as well as private. Article 14, Section I of the Constitution prohibits the practice of any kind of forestry involving cutting anywhere in the Forest Preserve. Thus, these forest lands belonging to the people have for three quarters of a century been deprived of almost all of the benefits resulting from the vast increase in the knowledge of forestry which has been achieved during those years.

With so little known of forestry when the Forest Preserve was created, it was only natural that the architects of Article 14, Section I should seek to protect the Forest Preserve by prohibiting all cutting in it. As early as 1897, however, the Commission of Fisheries, Game and Forests (the forerunner of the present Conservation Department) made an urgent plea in its annual report that scientific forestry be applied to public lands, if only on an experimental and demonstration basis at the start. Now, almost 60 years later, most professional foresters feel the same way. If such an experimental and demonstration project had been launched 57 years ago and continued up to the present, our knowledge of forest management in both the Catskills and the Adirondacks would be just that much ahead.

This Department has not at any time proposed that the Forest Preserve be "lumbered off," nor does it intend to make such a proposal. Furthermore, we are well aware that most of the Forest Preserve represents the poorest forest tree growing land in the State and, because of terrain and past use, the least rewarding and least susceptible to good forest management.

The Department strongly believes, however, that there is an urgent need to set aside some sizeable study and demonstration forest areas—totaling perhaps 50,000 acres at the start—selected to represent a variety of forest conditions, on which the best known principles of forestry could be applied. Private lands within the Parks, although many of them have been under forestry for years, do not offer an adequate opportunity for such experimental demonstration; continuity of neither ownership nor forest policy can be guaranteed, and the right of the State to conduct the operations is of course absent.

There are portions of the Forest Preserve, exclusive of the "High Peak" country and other wilderness or scenic areas best left untouched, which in the opinion of most trained foresters, wildlife experts and other professional conservationists would lend themselves to continuous forest management on a sustained yield basis. No miracles could or should be expected from such management. As noted above, the benefits of forest management as they relate to improvement of woodland conditions are slow to be realized, especially in the Adirondacks and Catskills. Nevertheless, the knowledge to be obtained from such experimental demonstrations would be invaluable, especially to future generations. And immediate returns might be realized in the form of cash receipts that could be ploughed back into the Preserve, in-

creased local employment, and improved environment for wildlife.

To this Department it seems illogical that except for the planting of trees and care of plantations, the practice of forestry anywhere in the Forest Preserve is prohibited by the Constitution.

Wildlife Management

The Forest Preserve represents the largest tract of land—and except for the State Forests and scattered public hunting and game management areas, the *only* tract—on which free public hunting can be guaranteed for the future. The Department, therefore, believes that the best principles of wildlife management should be applied to this property. This is not just a matter of satisfying a special group of hunters, bird lovers, or others, but has a great deal to do with the basic economy of the Adirondack and Catskill regions.

Wildlife management on forest lands is obviously closely and indeed inseparably linked with the management of the woodlands themselves, and it should be clearly understood that the axe and the saw are just as essential as instruments for good wildlife management as they are for forest management. Contrary to the belief of many, the forest primeval was not a great wildlife reservoir, nor can a return to such conditions be expected to produce an abundance of wildlife. Furthermore, it has been demonstrated that the benefits of wildlife management on private properties, no matter how intensive and effective such management, do not extend over onto interior State holdings to any great degree.

The Department would favor a constitutional amendment permitting environmental improvement for wildlife on Forest Preserve lands. And since wildlife management depends largely upon forest management, any areas set aside for the latter purpose could also be used for the former.

Fish Management

In this field, the Department has not been materially handicapped by any provisions of the present Constitution. Recently, however, there has arisen some question concerning the barrier dams erected in connection with the Adirondack trout restoration program. Although down timber has been used wherever possible, it has been necessary in some cases to cut some standing trees. Legal provision to meet such needs should be made.

Land Acquisition

The Department is strongly in favor of a larger as well as better integrated Forest Preserve. As a general principle, the Department is strongly opposed to the confiscation of private properties within the respective Blue Lines, and because of the existence of such properties it will never be possible to eliminate what is often called "the shotgun pattern" of Forest Preserve holdings.

Nevertheless, the Department believes that a long-range plan to improve public ownership, especially within the Blue Lines, should be devised. Such a plan should be based upon a continuation of present studies of properties now in private hands which would be particularly valuable if incorporated into the Forest Preserve. Such properties would include those having special values for recreation, watershed protection and other purposes, as well as smaller parcels the acquisition of which would round out an existing State holding.

The Department, however, believes that it would be wise, before embarking upon any large scale land acquisition program, to resolve some of the major problems listed above regarding the *use* of Forest Preserve holdings, since the character, size and location of the properties to be purchased (as well as the amount of money that should be spent for them) must be determined at least in part by the prospective use that will be made of them.

Zoning

Many people think of the Adirondack and Catskill Forest Preserve as solid blocks of wilderness property. A glance at the land maps demonstrates quite clearly that this is not the case. The Forest Preserve consists of a great variety of holdings, ranging in size and character from small building lots near settled communities to large interior tracts of genuine wilderness. There are also vast differences in elevation, climate, type and condition of forest growth, accessibility and usefulness.

The Constitution, however, provides that the same management policy must be applied to each and every one of these holdings, whether such holding be a small lot adjacent to a gas station on a public highway, or a large block of wilderness in the interior of Essex County. The Conservation Department seriously doubts the wisdom of handling public property in this manner.

The Department believes that any future State policy designed to establish a better and more useful Forest Preserve must take into account this great variety of holdings within the Preserve. There are, for example, large areas which should never again be touched by saw or axe. On the other hand, there are other portions which the public may decide should be made more productive of forest products and wildlife by active management such as is now being applied on many of our national forests and public lands in other states. And there are areas, already in State ownership, along waterways and highways which are not now and never will be true wilderness areas, but which would be suitable for intensive recreational development.

In view of the difference in character of Forest Preserve lands, and in view of the great difference in the type of use which individual citizens wish to make of the Forest Preserve, the Department feels strongly that careful studies leading to the permanent zoning of the Forest Preserve should be undertaken. Such zoning should delineate wilderness areas, areas for recreational development, areas for wildlife management and forest production and use.

CONCLUSION

Management by Law, or Opinion?

The Department is convinced that sound, consistent, and progressive management of the Forest Preserve can never be achieved as long as the Conservation Department must operate in an indefinite twilight zone between the prohibitions now contained in the Constitution and the vaguely permissive language of opinions rendered from time to time by Attorneys-General, and in court decisions, in an attempt to bend the Constitution to meet modern needs.

The Department most strongly recommends that the future management of the Forest Preserve be prescribed by *law*, representing a direct mandate from the people, placing on a firm legal and constitutional footing policies already being pursued, and establishing specific safeguards for the future. Neither this Department nor the State Department of Law approves of our present reliance upon opinions of Attorneys-General as a means of establishing public policy. It must be understood that such opinions are binding only upon public officers, that they may be reversed at any time, and that they may be challenged in the courts at any time. Furthermore, such opinions are usually rendered in response to a request for guidance in the handling of a specific situation. In the formation of basic public policy they do not replace, and are not intended to replace, a direct mandate from the people or their elected representatives.

The Future of the Preserve

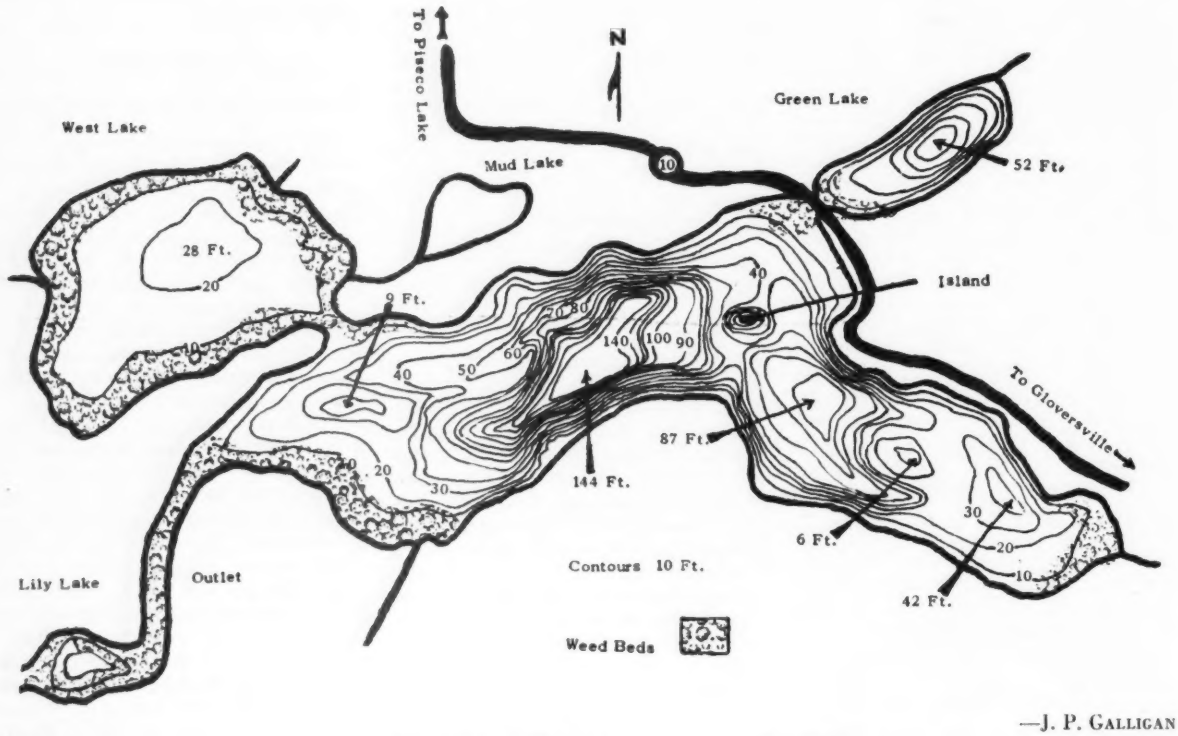
The Department's hopes and aspirations for the Forest Preserve can be simply summarized and stated:

The Department envisions a bigger, a better, and a more widely used Forest Preserve; a Preserve in which the larger and more truly wilderness and scenic portions are protected for all time; a Preserve which will have additional campsites, hiking trails, and other simple and accepted recreational facilities, to the end that present and future generations can receive greater dividends in public recreation from this common resource; a Preserve in which, at least on an experimental and demonstration basis, it will be possible to practice and further develop modern forestry and wildlife management; a Preserve so explicitly established and protected by law, so useful, that it will breathe new life into the Adirondacks and Catskills and restore them to their rightful places as two of the Nation's greatest outdoor playgrounds.

The Department hopes that through the work of the Milmoe Committee, the hearings which it will hold, and current public discussions, the people of our State will interest themselves in the growth and evolution of such a Preserve, and that they will then provide direct constitutional and statute mandates.

As custodian and administrator of the Forest Preserve, the Department recognizes that no matter how explicit the law, its personnel will always be called upon to exercise good judgment in executing public policy. Whatever decisions are made by the people with regard to the Forest Preserve, the Department will implement them in the future as it has in the past—to the best of its ability, and in the best interests of the people of the State.

Canada Lake



—J. P. GALLIGAN

General:

Two boat liveries.
Tourist accommodations nearby.

Fish Present:

Lake trout.
Red or sockeye salmon (recently introduced).
Whitefish.
Smallmouth bass.
Chain pickerel.
Brown bullhead.
Yellow perch.
Common sunfish.
Minnows.

Hunting in Vicinity:

Deer.
Grouse.
Snowshoe rabbits.
Squirrels.

Fur Bearers:

Beaver.
Otter.
Mink.
Muskrat.

Location:

Northern Fulton County.

Physical Features:

Area: 525 acres.
Elevation: 1,542 feet.
Maximum depth: 144 feet.
Length: Approximately 2.5 miles.
Maximum width: Approximately 0.75 mile.

Chemical Characteristics:

Oxygen: Adequate for fish life at all depths.
pH: Slightly acid.
Transparency: Clear.

Outdoor Manners

PROVIDING facilities in the Forest Preserve for healthful outdoor recreation has been a major function of the Conservation Department since 1920, when the initial appropriation of $2.500 was made for recreational development. The volume of public use and the number of recreational facilities developed by the Department have steadily increased during the past three decades, and last year over one million persons visited the 34 public campsites and the State-owned islands in Lake George. In addition, 31,517 hikers were counted at various interior headquarters locations where caretakers are maintained during the summer, but these hikers represent only a portion of the actual number of persons who used the 593 miles of trails and 192 lean-tos maintained by the Department.

Forest Rangers issued 1,221 permits covering 5.571 persons who camped in excess of three days at undeveloped locations; the number that camped for shorter periods is unknown, since no camping permit is required for periods of three days or less. Use of the Forest Preserve by well over a million people annually is now a major contributing factor to the economic and social well-being of our State.

It has been our experience that the majority of people who use Department facilities are considerate, satisfied citizens. They are courteous, observe the generally accepted codes of good behavior, and respect State property. The greatest source of pleasure in our job is to serve this group to the best of our ability.

There is, however, a small minority who would be welcome only at the Sanctuary of Satan. Their scruples, sense of decency, respect for other persons or property, and good manners are left securely locked up at home. When they obtain a camping permit at one of our public campsites they regard the permit as an invitation to embark on an orgy of vandalism, the extent of which defies the imagination. Nor is destruction or defacement of State property limited to the public campsites; it is also a popular form of outdoor recreation along trails and at lean-tos maintained by the Conservation Department.

The 1953 season surpassed all previous records for volume of public use of our recreational facilities. Unfortunately the extent of vandalism kept pace. We are deeply concerned about this increase in vandalism. Spending appropriated funds to repair the damages resulting from preventable vandalous acts is done at the expense of essential normal maintenance work. Incorrigible vandals are stealing this money from themselves and their fellow taxpayers.

Vandalism takes many forms, including complete willful destruction, partial damage involving defacement, and outright theft of State property. Typical property destruction experienced by the Department on the public campsites includes demolishing picnic tables for firewood; throwing stones at skylights and windows of buildings and using firearms to shoot holes through windows; throwing or dropping heavy stones into china toilet bowls; chopping up toilet seats and doors of buildings for firewood; felling healthy, standing trees for tent poles or firewood; using campsite signs for firewood and unnecessarily wasting housekeeping supplies provided for the public.

In the damage and defacement category: Removing planks from picnic tables and chopping them up for firewood; using fireplaces for chopping blocks, thus loosening the stones or bending the grates; throwing debris into latrine vaults, causing stoppage in discharge lines to cesspools; shooting locks off campsite buildings; cutting screens on windows of campsite buildings to gain entry; tampering with locks and water faucets; peeling bark from

healthy, standing timber; hacking trees and guard rails with axes and knives and carving initials in various wood structures and on standing timber; smearing of latrines and bathhouses with lipstick or crayon; and writing smutty sayings and drawing pornographic pictures on walls of latrines and bathhouses.

The kinds of State property stolen: First aid kits, lanterns, pails, electric light bulbs and fixtures, water faucets, garbage cans, picnic tables, door hinges and latches, lifeguard boats, tents, boat oars, forms for foundations of buildings, window sash and casings, all types of signs, garden hose, life saving rings, yacht chairs, fireplace grates, assorted hand tools, toilet paper—and even the American flag. Theft of personal items from campers' or picnickers' tents and cars has also been reported, but the number of such incidents coming to our attention has been exceedingly small.

Although vandalism is most serious on the public campsites where large numbers of people are concentrated, many of the forms of vandalism mentioned above are also prevalent but less severe in the interior region of the Forest Preserve, particularly along trails and at lean-to locations. Trail signs and markers are the favorite prey of the hiking vandal. Trail signs are burned for fuel, shot up beyond recognition, stolen for souvenirs, turned so as to point in the wrong direction at intersections, or taken down and put up at an entirely new and incorrect location. Our colored metal trail markers, posted for guidance of bona fide hikers, are popular both as targets for the hunter's rifle and as souvenirs.

Another type of damage experienced: The removal of wood shakes from the roofs of the older lean-tos for kindling wood; perforation of roofs of lean-tos with rifle shot; pit privies riddled by rifle shot.

One of the most unusual cases of defacement in the history of the Department occurred in 1948, when Forest Rangers apprehended a mountain climber who was spending his vacation climbing the 46 Adirondack peaks of over 4,000 feet elevation and leaving a record of his accomplishment on each peak, inscribed in orange paint. He paid $25 in settlement for the defacement of State property. (It was only through the co-operation of other mountain climbers that this individual was apprehended and brought to justice.)

WHAT can be done to combat the rising incidence of vandalism? Frankly, we don't know. But since the problem is basically one of human relations, the approach to correction appears to be mainly educational—more universal adherence to accepted codes of good manners, closer co-operation of good-mannered citizens in straightening out the bad, and stricter enforcement of the rules. But with regard to the latter, we simply are not in a position now, to provide intensive policing; that sort of thing does not seem to us to be appropriate in these circumstances.

What we need mainly is closer co-operation between the Department and the public in the apprehension of vandals. None of us would stand by idly and watch a gang of hoodlums stone a neighbor's windows, steal his car, chop down his picket fence or set fire to his house. But all 46 peaks in the Adirondack over 4,000 feet might now be adorned with orange paint if aroused mountain climbers had not reported the incident to Forest Rangers. We need more of that sort of co-operation.

Another need is for better supervision of children on the part of parents; much of the vandalism on the campsites is caused by young children and teen-agers. In April, 1952, the Park Association of the City of New York published a report on *Vandalism in City Parks*. This report listed $204,361 worth of destruction or damage to city parks and playgrounds in New York by juveniles. The recommendation of the Park Association was to adopt an anti-vandalism law making parents of children under sixteen years of age who commit vandalism in parks and playgrounds subject to a fine commensurate with the damage done. The Park Association considered this law the most effective single remedy to combat vandalism. We are not in a position to discuss the pros and cons of this law, but we do note that its salient feature is the placing of responsibility on parents for the unlawful acts of their children.

This summer we will have augmented staffs on certain of the larger, more intensively used campsites. We will also have four Park Rangers on duty—one at Fish Creek, two at Cumberland Bay and one at Hearthstone—to maintain order and enforce the rules and regulations. But even with a platoon of Park Rangers on each campsite, vandalism will still occur unless the users of these areas are motivated not only to behave themselves, but also to take an active interest in how others behave. The State property destroyed, damaged, defaced, or stolen belongs to you and your fellow taxpayers.

—D. E. RYAN,
Bureau of Camps and Trails

Conser

ONE of the fundamental responsibilities of the Conservation Department in New York is the development, in co-operation with Federal and other State agencies, conservation groups and landowners, of management programs to utilize properly our natural soil and water resources. But equally fundamental is the responsibility of the State Department of Public Works to provide for the people of the State a safe and modern highway system geared to the rapidly expanding demands of industry and agriculture.

In fulfilling these obligations, the Departments of Conservation and Public Works have in the past gone their separate ways, unmindful in general of the other fellow's problems—and as a result, often working at cross purposes. Perhaps nowhere has this conflict of interests and responbilities been more apparent than in highway construction versus trout stream preservation.

It is not difficult to see how such conflict developed. Highway engineers are not expert conservationists, nor are conservationists expert highway engineers. It is clear, however, that the highway engineer can better do his job, if he understands some of the fundamentals of sound conservation practice—for example, the importance of streamside cover in maintaining suitable water temperatures for trout, and the necessity of leaving the stream bed undisturbed to produce aquatic fish foods. These facts, though basic, are not generally understood by laymen uninitiated in conservation—in which class many engineers would be included. But it is equally clear that the conservationist would be better able to execute his responsibilities if he were aware of the basic physical and economic requirements for construction and maintenance of highway systems.

Strangely enough, however, this area of conflict has proved to be the basis upon which mutual understanding and a workable program of co-operation was developed:

Some years ago, when a practical problem of great interest to both Conservation and Public Works departments was involved, respresentatives of the Conservation Department, the New York State Conservation Council and B. D. Tallamy, Superintendent of the Department of Public Works, met and exchanged views, and at this meeting a policy of mutual co-operation was adopted. In 1951, Mr. Tallamy provided an engineering representative to function in a liaison capacity for his Department, and soon thereafter

vation and Public Works

Donald Tobey, then president of the State Conservation Council, appointed a committee to represent the Conservation Council. Thus, in addition to the two departments involved in the State's interests, sportsmen's clubs and conservationists were also represented. Many problems of common concern have been reviewed since then and in many instances, solutions mutually acceptable have resulted. One of the results has been that we in the Department of Public Works are now becoming better informed in matters pertaining to conservation practices, and we expect that the conservationists in turn are becoming better informed with respect to highway work.

A further result is that highways are now being thoroughly studied prior to construction, in order to avoid, wherever possible, work within or adjacent to streams. An outstanding example of this is through Sullivan and Delaware counties, where Route 17 (along Willowemoc and Beaverkill creeks) must be reconstructed according to modern standards and needs. Across these two counties the valleys are narrow and crooked, flanked by high, steep and unstable slopes. To disturb them might result in tremendously destructive land slides. The Conservation Department, Conservation Council and local sportsmen are being kept up-to-date on the design of this highway, and the desire to co-operate, even in this early designing stage, is manifest in the many discussions that have already been held.

Another example: In Ontario County, in order to leave the outlet to Canandaigua Lake undisturbed, the east and westbound lanes of the New York State Thruway were separated, straddling the outlet for several miles. Since trespassing on Thruway right-of-way is prohibited, fishermen in the area were concerned; they feared that if the outlet were retained within the right-of-way, fishing would be prohibited in that section of the stream. Since it was possible, however, to reach the stream by way of bridges at each end of the section, Mr. Tallamy (who is also Chairman of the Thruway Authority) indicated that fishing would be allowed along the stream, providing that fishermen entered the stream area by way of the bridges and did not park on or cross traffic lanes. This approval, however, was contingent upon behavior of fishermen and upon assurance from local sportsmen's groups that they would assist in policing the area to avoid misuse of the privilege.

In this same area of State where relocation of a part of the Canandaigua outlet stream was necessary, sportsmen

pointed out to our engineers that if the new channel bordered directly upon the highway embankment, at least one side of the stream would be unshaded. If established some distance from the toe of the embankment, however, existing trees and shrubs could be retained along both sides of the relocated channel. The Department of Public Works was glad to be able to co-operate with the local sportsmen.

Sometimes, to protect a bridge or portion of a highway, the direction of a stream must be changed, and in the maintenance of flood control work, streams may need cleaning out. In our maintenance operations, stream channels may be disturbed when obtaining gravel or soils for highway purposes. Furthermore, emergency conditions may require entry into a stream for various other reasons. But in all such operations we are endeavoring to avoid disturbing natural conditions whenever and wherever possible.

Another problem, long a headache to fishermen and conservationists, is the movement of gravel or soil from tributaries into valuable larger streams through natural stream flow. Where this movement affects our State highways, timber crib check dams have been installed in many places. The Department of Public Works recognizes the value of such structures for conservation practices, but is prohibited from extending such work beyond that actually required for highway or bridge protection. Experience with their use indicates what can be expected where they are usable. In a previous issue of THE CONSERVATIONIST (Feb.-March, p. 27) pictures of similar structures were shown; a smaller type pictured with this article, was installed by our Department down a steep roadside ditch along a highway in Steuben County.

Not all stream relocation and work in the State is under State jurisdiction. Since much of it is under county and town governments, efforts have been joined by this Department for promoting an educational program to encourage these highway organizations to co-operate with conservationists.

These are only a few of the many instances that could be mentioned of the Department of Public Works' interest in the promotion of good conservation practices. It should not be expected, of course, that every problem can be ideally resolved. However, as long as men can sit around a conference table and present their differing viewpoints in a reasonable and unselfish manner, the interests of the people of the State will be better served.

Banding Geese

For a number of days preceding the actual trapping, bait (in this case eared corn) is dumped on the trapping site. This accustoms the birds to depend on food at this particular spot.

While waiting for a sufficient number of birds to collect, nets are checked. It may be necessary to wait days or even weeks before enough geese are feeding on the trapping area; it is desirable to have at least 100 geese before the net is fired.

EACH year the Oak Orchard Game Management Refuge Area attracts thousands of geese on their annual migrations. This spring the Conservation Department made a concerted effort to catch and band some of these geese in an attempt to determine migration routes, summer nesting grounds, wintering grounds, and age and sex composition of large flocks of migrating waterfowl. And some of the birds were wing clipped in the hope that we can establish local breeding populations to supplement the few resting pairs we already have.

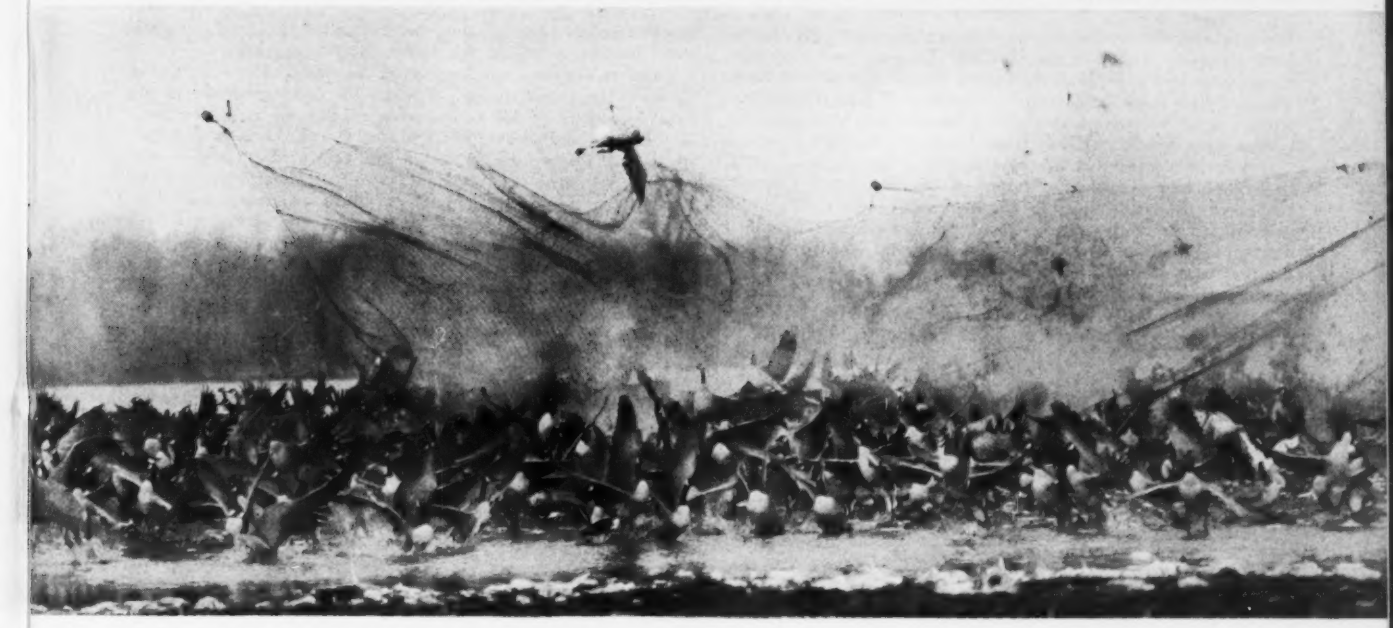
Some years ago Herbert H. Dill and William H. Thornsberry of the U. S. Fish and Wildlife Service developed what is known as the cannon net trap for capturing waterfowl, and it is hoped that the accompanying photographs will show you how and why the N. Y. S. Conservation Department uses this device. It is to date the cheapest and most efficient technique of its kind.

Gun powder and wadding are being rammed into the cannon. The detonating device is a squib, placed at the center of each charge.

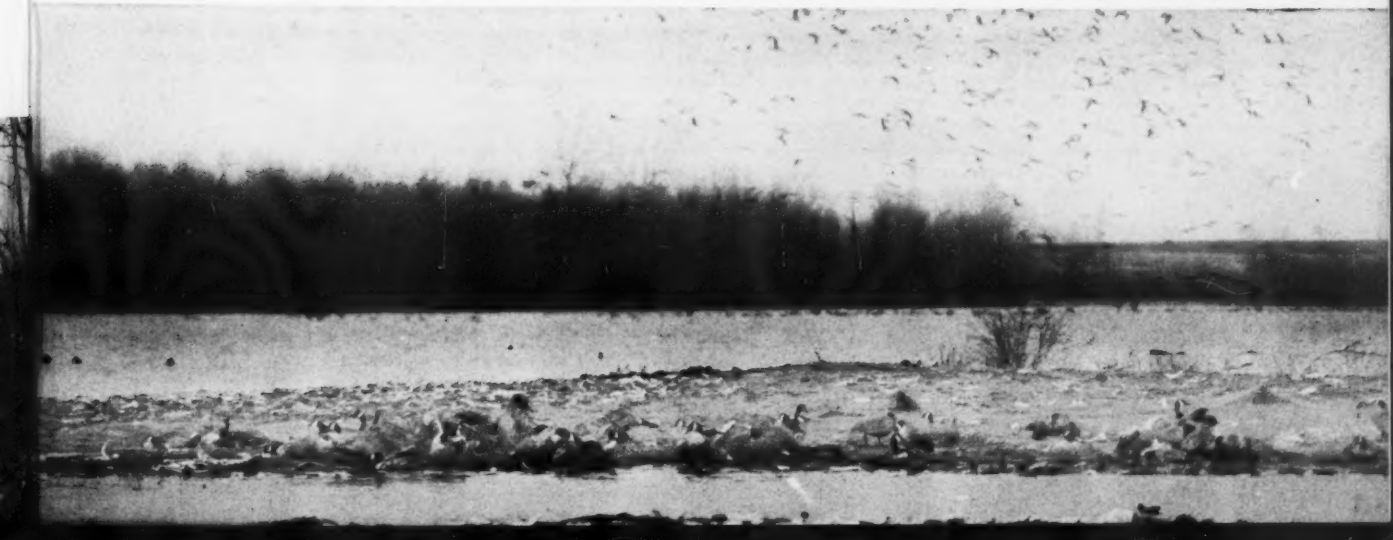
After net has been camouflaged, cannon receives the projectiles which will carry the net out, and over the geese.

One hundred fifty feet of field wire is attached to the "squib" and is run out to the operators' blind and there attached to two 6 volt dry cell batteries.

Just before the cannon was fired. Notice four blue geese (left center) and one snow goose (right foreground).



The cannon is fired—and in a freak accident one goose is killed by the center projectile carrying the net.
Seconds later, sixty-two geese were caught and banded with this "shot." Net measures 55′ long and 40′ wide.



"For one upon whose dazzled eyes
The whole world poured its vast surprise."

JASPER FRANCIS CROPSEY, one of the outstanding painters of the Hudson River school, was born near Rossville on Staten Island on February 18th, 1823. He was first trained as an architect, but early in life gave it up and turned to painting, in which he had a long and successful career until his death in 1900 at the age of seventy-seven.

The sunset picture here illustrated was painted in 1867, at the height of the romantic movement in America which affected both literature and painting. In 1867 Emerson was sixty-four, Longfellow was sixty, William Cullen Bryant was seventy-three. Thoreau had been dead just five years, and John Hay (lines from one of his poems are quoted above) was a stripling of twenty-eight, but had already been Abraham Lincoln's secretary.

It was in nature that all the romantics found their initial inspiration. In America, it started in the Eighteenth Century, with such artist naturalists as Audubon and Wilson, concerned primarily with the exact details of the natural world, and it was expanded into the most imaginative and exalted conceptions of nature as a whole.

Although some of them seem to have lived among soaring ideas and impalpable abstractions, these men never lost their grasp on reality, and were at home in the visible world, if only because they conceived of it as the mirror of eternity, and worthy of attention for that reason. And so just as an ornithologist or herbalist would observe most carefully the color and texture of the wing feather of a bird or the petal of a flower, so the painters and poets look with passionate attention at such larger aspects of nature as climate, weather, season of the year, time of day, and the varying moods these things imply. Through the observation of the familiar scene, they thought to pierce the secrets of the universe.

When this writer was first asked to contribute an article on Cropsey, the intention was to relate his pictures to the poetry and philosophy of his contemporaries, but on rereading some of the poets and philosophers, it was at once obvious that they spoke for themselves far more eloquently than anyone else could speak for them. And so, instead of an article, some excerpts from the work of a few of them are submitted.

Perhaps the best statement of the romantic attitude towards nature is Emerson's essay, called simply "Nature," which he published anonymously in 1836. At that time Cropsey was a boy of thirteen, but later undoubtedly he read it, and certainly his response to the world about him, as expressed in his painting, was very similar. The essay begins:

"There are days which occur in this climate, at almost any season of the year, wherein the world reaches its perfection, when the air, the heavenly bodies, and the earth, make a harmony, as if nature would indulge her offspring; when, in these bleak upper sides of the planet, nothing is to desire that we have heard of the happiest latitudes, and we bask in the shining hours of Florida and Cuba. . . . The day, immeasurably long, sleeps over the broad hills and warm wide fields. To have lived through all its sunny hours, seems longevity enough. The solitary places do not seem quite lonely. At the gates of the forest, the surprised man of the world is forced to leave his city estimates of great and small, wise and foolish. The knapsack of custom falls off his back with the first step he makes into these precincts. Here is sanctity which shames our religions, and reality which discredits our heroes. Here we find nature to be the circumstance which dwarfs every other circumstance, and judges like a god all men that come to her. We have crept out of our close and crowded houses into the night and morning, and we see what majestic beauties daily wrap us in their bosom. How willingly we would escape the barriers which render them comparatively impotent, escape the sophistication and second thought, and suffer nature to entrance us. The tempered light of the woods is like a perpetual morning, and is stimulating and heroic. The anciently reported spells of these places creep on us. The stems of pines, hemlocks, and oaks, almost gleam like iron on the excited eye. The incommunicable trees begin to persuade us to live with them, and quit our life of solemn trifles. Here no history, or church, or state, is interpolated on the divine sky and the immortal year. How easily we might walk onward into the opening landscape, absorbed by new pictures, and by thoughts fast succeeding each other, until by degrees the recollection of home was crowded out of the mind, all memory obliterated by the tyranny of the present, and we were led in triumph by nature."

There is no more succinct expression of the romantic vision of nature in the English language, but there are many others in verses as well as prose which manifest a similar feeling. Longfellow's poem, again entitled simply "Nature," reads as follows:

As a fond mother, when the day is o'er,
Leads by the hand her little child to bed,
Half willing, half reluctant to be led,
And leave his broken playthings on the floor,
Still gazing at them through the open door,
Nor wholly reassured and comforted
By promises of others in their stead,
Which, though more splendid, may not please him more;
So Nature deals with us, and takes away
Our playthings one by one, and by the hand
Leads us to rest so gently, that we go
Scarce knowing if we wish to go or stay,
Being too full of sleep to understand
How far the unknown transcends the what we know.

These are statements of a broad general conception of nature. The same feeling could be expressed in appreciation of a most minute detail—the sight of a single flower or the flight of a bird. Probably everyone has read William Cullen Bryant's "To the Fringed Gentian," or "The Yellow Violet," or the more familiar "To a Waterfowl." Perhaps reading parts of them again, they may give the same pleasure we find in returning to a familiar landscape, or in viewing again a long loved picture. The following verses are from Bryant's "To a Waterfowl":

Whither, midst falling dew,
While glow the heavens with the last steps of day,
Far, through their rosy depths, dost thou pursue
Thy solitary way?
There is a Power whose care
Teaches thy way along that pathless coast—
The desert and illimitable air—
Lone wandering, but not lost.

All day thy wings have fanned,
At that far height, the cold, thin atmosphere,
Yet stoop not, weary, to the welcome land,
Though the dark night is near.
And soon that toil shall end;
Soon shalt thou find a summer home, and rest,
And scream among thy fellows; reeds shall bend,
Soon, o'er thy sheltered nest.

In the Nineteenth Century America there were, as now, critics as well as artists. One of the more distinguished of these was Rufus Griswold, who wrote of Bryant's poetry as follows:

"No poet has described with more fidelity the beauties of the creation, nor sung in nobler song the greatness of the Creator. He is the translator of the silent language of the universe to the world. His poetry is pervaded by a pure and genial philosophy, a solemn and religious tone, that influence the fancy, the understanding, and the heart."

and Bryant's friend, Washington Irving, wrote of him,

"His close observation of the phenomena of nature, and the graphic facility of his details, prevent his descriptions from becoming general and commonplace."

What was written of the poet was true of the painter. It was characteristic of these men that the simplest detail of the world of nature could provoke the most exalted flights of the imagination. Years before in England, William Blake had written:

To see a World in a Grain of Sand
And a Heaven in a Wildflower,
Hold Infinity in the Palm of your Hand
And Eternity in an Hour.

Cropsey had no doubt read this. He was familiar with the work of the English romantics, and he lived and painted in England from 1856 to 1863 and had, there, a tremendous professional success. In 1862, the art critic of the London "Times" wrote of his picture "Autumn on the Hudson River," the following:

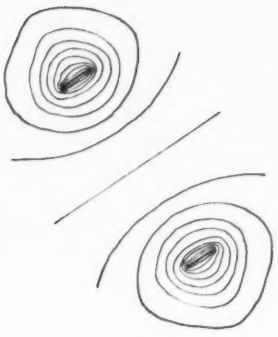
"American artists are rapidly making the untravelled portion of the English public familiar with the scenery of the great Western continent. Mr. Church's 'Falls of Niagara,' and the 'Heart of the Andes,' recently exhibited, have found a companion picture in Mr. Cropsey's 'Autumn on the Hudson River,' now on view. The painting is a perfectly faithful view of the locality—a valley running inland from the Hudson, between West Point and Newburgh—in the vicinity of the Sleepy Hollow of Washington Irving, and Sunnyside, the pleasantly-named retreat in which the last years of that popular writer were passed. The point of view is well chosen for variety of effect. It comprises a lake-like inlet of the river, the distant river itself, mountains, and an undulating foreground of forest and wood. The singularly vivid colors of an American autumnal scene, the endless contrast of purples and yellows, scarlets and browns, running into every conceivable shade between the extremes, might easily tempt a painter to exaggerate, or revel in variety of hue and effect, like a Turner of the forest. But Mr. Cropsey has resisted the temptation, and even a little tempered the capricious tinting of nature; his autumn is still brilliant, but not quite lost to sobriety, as we have sometimes, we think, seen it in that Western World. The result is a fine picture, full of points that are new, without being wholly foreign and strange to the European eye. It will take the ordinary observer into another sphere and region, while its execution will bear any technical criticism."

This quotation was reprinted by Henry Tuckerman, in his detailed account of Cropsey's life, in his "Book of the Artists," which was published the same year that this picture was painted.

This picture—and all these quotations—reflect a condition of heart and mind, compounded of innocence, and wonder, which is part of our heritage, and which never loses its validity or, we trust, its vitality.

—James W. Fosburgh

1. Paddle-type electrodes of portable shocker, showing effect of electrical current on minnows (small white objects near electrodes).



2. Diagram of electrical field showing lines of current flow surrounding paddle-type electrodes (shown as solid, black bars in same relative position as in Fig. 1).

More Shocking

THE electrical requirements to stun fish with alternating current shock are quite simple. For example, Figure 1 shows a small pool containing a large number of small minnows. Two electrodes were placed on opposite sides of the pool with 150 volts between them and the fish darted about until stunned. Their final position made a very interesting pattern. Looking closely, one may see that near the electrodes the number of stunned fish is large, while halfway between there is none.

Figure 2 illustrates how the 150 volts between the electrodes divides up in the water to produce the situation shown in Figure 1. The lines are lines of equal voltage. Between each pair of lines the voltage is three volts. It requires about three volts between the head and tail of a fish to stun it, so that if a fish gets in a part of the pool where the lines are close together it will quickly be stunned. The pattern of stunned fish in Figure 1 conforms nicely to the strongest parts of the electric field as shown in Figure 2.

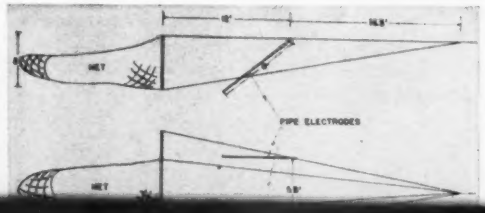
The principal problem of designing a successful shocker* is, then, to provide electrodes which will cause the available voltage to divide up as evenly as possible in the water so that the field strength is uniform over the area to be shocked, or alternatively, to have the electrodes close enough together to make the minimum voltage gradient in the water sufficient to shock fish.

Since it requires (at least for trout) the same voltage between head and tail

4. Back-pack shocker in operation on Mordener Kill (Rensselaer County).

5. Alternate polarity system in operation on upper Mohawk River (Oneida County).

6. Diagram of experimental deep water shocker combining bar electrodes and bag net.



* The author has recently completed a two-year study of the electric shocker under a project of the Dingell-Johnson program.

3. Grounded system shocker in operation on Crystal Creek (Lewis County).

Not too many years ago any local resident who saw a seine being hauled in a trout stream was likely to put in a call to the nearest Game Protector. Chances were, however, that such seining was not the work of law violators but a legitimate and constructive activity carried on by a biological survey field party checking fish populations for stocking recommendations or other fish management purposes.

In recent years, the old fashioned seine has been supplanted by the electric shocker. From its first adoption in New York streams by Dave Haskell, the electric shocker has flowered out into numerous useful adaptations to help improve fishing by providing a better sampling method for necessary research.

You as a fisherman cannot legally use these devices and besides, they are dangerous. Although fish revive soon after being subjected to electric shock a person could not safely take a comparable shock. The purpose in presenting this article is, not to stimulate you to try electric fishing but, in these days of technological progress, to provide you with the latest word on fish shockers as a better and better tool for future fish research and management.

to shock a long fish as a short one, a large fish (because it occupies a larger portion of the electric field) may be stunned where the small fish are unaffected. Unfortunately, our biologists in their research studies insist on collecting small fingerling trout, which fact makes the designing of an effective shocker just that much more difficult.

Several electrode systems are in use today, and a good deal of personal preference exists for one or another. One of these is the grounded system shown in Figure 2. One terminal of the generator is grounded, while the other is connected to a long floating electrode at the water surface. In general, soil being a better conductor than water, the current flows from the electrode to the stream bed under it, and fish are stunned in an area a few feet on either side. This system works well where the resistivity of the water is relatively high and that of the soil, low. However, when the soil resistivity is high most of the voltage is used in driving the current through the soil, and little is left in the water for shocking purposes.

Strangely, the conditions at the Lake George Hatchery (where the grounded system was first tried in 1939) are the most favorable yet found, while by contrast, in Crystal Creek in Lewis County, the grounded system, although workable, requires a large number of widely scattered grounds because of high soil resistivity.

A second electrode system in quite general use is that shown in Figue 1, a two electrode system with full generator voltage between them. The amount of power required is fairly small, but the effective area is likewise small, although some improvement can be made by using larger electrodes. Because of the limited power of this system, we have developed a portable, back-pack power supply (Figure 4) which converts the output of a motorcycle battery to higher voltage alternating current. Several of these units will be employed in the watershed resurveys planned to start this summer.

A third system uses several electrodes spaced across the stream. The first, third, fifth, etc. of these electrodes are connected to one generator terminal the second, fourth, etc. to the other generator terminal. Several very successful systems of this type are in use. Such systems have been developed by New York biologists in the Southern and Central Fisheries Districts. (Figure 5).

Still another electrode system was employed in the design of a deep-water shocker for ponds. This consists of a bag net, drawn behind a boat (Figure 6). A pair of electrodes consisting of brass pipes are attached to the pull ropes several feet in front of the bag, so that fish are stunned before they are scared away by sight of the bag. This development is in its infancy, and work will be continued on it as a part of the Carp Control Dingle-Johnson project in which such a method of sampling ponds will be needed. Preliminary tests in Oneida Lake netted several species of fish from 3 to 30 inches in length. The long parallel pipes produce an effective electrical field where short pipes would be useless.

The higher the resistivity of the water, the more difficult it is to shock fish. Salt water would appear, then, ideal, but in ocean shocking new problems arise in that power supplies of tremendous size are required to produce even a small voltage in the water. European workers have, none the less, made considerable progress in use of electric shock for taking marine fish, and German workers have developed an apparatus which they hope will be successful for ocean use. This apparatus has been installed on a commercial fishing vessel and brought to the United States for further experiments by the U.S. Fish and Wildlife Service.

Another interesting application of the shocker is in commercial fishing for tuna, where fish are still caught by a large number of fishermen using handlines. The landing of these big fish is arduous and time-consuming. In using electricity in this fishery, the hook acts as one electrode, the hull of the boat as the other electrode. Thus, the fish are stunned and are much more quickly and easily boated.

For our purposes, however, electricity serves best as yet another tool for fisheries research and management. Its further development in this field is counted upon by fisheries biologists to assist materially in the problem of providing good fishing to meet the steadily increasing fishing pressure on our lakes and streams.

—Dave Haskell, *Hatchery Foreman*

Oswego County

Smallmouth Bass

The Spread of Black Bass

THE retreat of many species of game fish before the axe, the plough and other accompaniments of civilization has so frequently been emphasized that it may be a surprise (to a few people, at least) to learn that some New York game fish today enjoy an even wider place in the sun than they did before civilization took over. The black basses, smallmouth and largemouth, are two species which have benefited by the works of man, especially by the habit that early fish culturists had of introducing these fish into waters that originally did not contain them, but also through the building of new lakes and reservoirs.

Today black bass are taken in almost as great numbers as trout in New York, and since their average size is much larger, the poundage annually taken probably exceeds that of the brook, brown and rainbow trouts combined. A reliable record of the original native range of bass can be pieced together from the work of early ichthyologists and fish culturists.

Early in the Nineteenth Century bass were not propagated. A few transfers of fish from one body of water to another were already under way, but the native range of our various species of fishes was presumably little changed. One of the outstanding ichthyologists of these days was James E. DeKay, whose *Zoology of New York, 1842* included careful descriptions and illustrations of a large number of fish species. At that time the waters of New York had not been very thoroughly explored and the presence of some species was overlooked. It is unlikely, however, that black bass could have escaped more detailed mention than DeKay gives them if they had been very widespread in distribution.

He noted smallmouth bass in Onondaga Creek, Oneida Lake, at Buffalo and at Oswego. Largemouth bass were known from New York on the authority of the French zoologists, Cuvier and Valenciennes, and this species was illustrated by DeKay, without, however, a definite New York locality being cited.

In 1850 Spencer F. Baird, who later became Commissioner of the U. S. Fish Commission, made a small collection of fishes from Lake Champlain for the U. S. National Museum. He recorded smallmouth bass at Westport. Largemouth bass were not definitely recorded from

Largemouth Bass

Lake Champlain until 1902.

Piecing together the information from early records, it is very probable that the smallmouth bass was native to Lake Erie, Lake Ontario, the St. Lawrence River and Lake Champlain, and reached some interior waters of low elevation. But there is no evidence that the extensive upland waters of the State were within its native range.

As to the largemouth bass, the story is not so well documented. Today, the largemouth is generally scarce along the Great Lakes and St. Lawrence area of New York, but fairly numerous in many bays or creek mouths. Perhaps it was native but escaped the notice of early naturalists; in most of our interior lakes where it is found today, however, it definitely was not native.

As early as 1850 smallmouth bass were introduced into Massachusetts, according to Hubbs and Bailey (*The Small-mouthed Bass*, 1938). This date also marked experimental propagation of this species, (Milner, *The Progress of Fish Culture in the United States*) and soon smallmouth bass were introduced into upland waters and began to spread naturally throughout chains of contiguous waters.

One of the best landmarks in the early days of fish culture was provided by a noted New York fish culturist, the late Fred Mather, who in 1882 made a survey of Adirondack fishes (published in the State Land Survey in charge of Verplanck Colvin). Mather pointed out that black bass were not native to the Adirondacks, being found "only in waters where they were planted and those to which they have strayed." He recorded smallmouth bass in a number of lakes: Raquette, Forked, White, Fourth, Bisby, Sucker, Blue Mountain Chain, Fulton Chain, Partolo Pond (St. Lawrence County), Schroon Lake, Paradox Lake—and in Moose River and Black River. The spread of smallmouth bass has continued until today hundreds of waters have been added to the native range.

Largemouth bass were not found in the Adirondacks by Mather. Their spread has been rather recent and the number of waters where they are now found has increased greatly even in the last decade. Stocking, canal connections, transfer of fish from place to place, and the building of dams have all helped widen the range of black bass. Preferring large waters, the black basses have often increased in artificial impoundments such as reservoirs.

Today, in both old and new home waters, the black basses are regarded as fine game fish, whether at the top of the list or close to it being merely a matter of individual opinion. By and large, the spread of the smallmouth from its already vast acreage of native range in lowland waters to the large acreage represented by various upland waters has been a good thing for public recreation generally. And in warm lakes, farm ponds and weedy bays the largemouth has gained increasing popularity.

Biologists and fish culturists agree, however, that if there had been some way to restrain the wild enthusiasm of the early days of random stocking, a better job of fisheries management would be possible today. Now that there has been time to find out what bass will do when introduced into a body of water and given time to multiply, opinions on bass are divided.

Bass are warm-water fish, making their best growth where the water becomes warm over a long period of time. Cold waters or waters where the growing season is short (as it is in high elevation waters) lack the capacity to grow bass very fast. If, added to such handicaps, there is a shortage of forage or too much competition, bass populations are sure to be stunted.

A body of water cannot support a population of stunted bass and produce very much else. As most of the small lakes were trout waters originally, they have suffered a real loss through introduction of bass, although often there have been other complications such as yellow perch—which are even more destructive to trout.

Today, few new introductions of bass are recommended for New York waters, since most of the lakes now free from bass are trout waters. In the larger waters, well adapted to bass production, bass stocking is seldom considered necessary, as natural reproduction is usually very good. Small bass are frequently numerous but, according to many anglers, there are never enough big bass in a biting mood. Recent studies, such as one in progress in the Lake Ontario-St. Lawrence area, are contributing to an understanding of what makes good bass production, and much of what is learned can be applied in building up a program designed to maintain and improve bass fishing.

The day of sensational new introductions of bass may be over. But good bass fishing is here to stay. Newcomers to the sport will find fishing pressure heavy and the bass somewhat hard to catch, but may be encouraged by the realization that even Great Grandpa never had it so good.

—JOHN R. GREELEY,
Chief Aquatic Biologist

The Mice

DISNEY loves them, horticulturists fear them. Health departments watch their numbers with baited traps, and foxes with licking chops. Prolific, both friend and enemy of man's interests, the mice are an important and integral part of the conservation picture.

On the debit side: The nation's annual loss of grain products to these rodents totals many millions of dollars; trees are girdled beneath the winter snows; storage bins are invaded; insects (both good and bad) are eaten; bird nests are raided, tree seeds destroyed, sod burrowed and broken for future dusting and drying.

On the credit side: Included in their diet of grain and tree seeds are billions of weed seeds; the kill by mice of certain saplings may produce an early thinning, allowing more room and faster growth for the remaining stand; some of the tree seeds that are stored and forgotten find an ideal growing site in these mouse "kitchen middens;" the same burrowing that breaks and loosens the sod for future drying and dusting may also prepare it for greater water penetration and storage. And for the sportsmen, these minutiae of the rodent world act as a buffer between game species and hungry predators—as when a couple of mice take the place of a grouse to satisfy the appetite of roaming fox.

In any case, good or bad, mice are here to stay—including both the mouse who becomes food for a hungry bass, and his brother who swipes the oatmeal from the camp shelf. So let's know what they look like. Their importance is no longer a matter of opinion or prejudice, but real and measurable.

On the following pages are the mice of New York. I painted them from specimens obtained from Dr. William Webb and Earl Patric of the New York State College of Forestry, and Dr. Ralph Palmer and Dr. Edgar Reilly of the New York State Museum in Albany.

—H. WAYNE TRIMM

White-footed mouse, *Peromyscus leucopus*

This is a woodland species that is often confused with the Deer mouse. The color is a pale to rich reddish-brown in the adults, while the young are gray. The tail is usually shorter than the total length of the head and body.

Active throughout the winter, these mice feed on grain and seeds stored at an earlier date in special hiding places. During the summer they feed extensively

# of New York

on insects, chiefly ground-beetles and caterpillars. The young mice grow rapidly and are capable of breeding when two months old. For this reason (when conditions are favorable) large populations may build up. Helping to keep them in check are a multitude of weasels, hawks, owls and other predators.

Deer mouse, *Peromyscus maniculatus*

A woodland species varying in color from a pale grayish-buff to a reddish-brown. The tail, which is sharply bicolor, is longer than that of the White-footed mouse. Good climbers, they often take over a vacant bird nest or a cavity in a tree as their nesting site. Mostly nocturnal in habit, their general behavior varies little from that of the White-footed mice.

House mouse, *Mus musculus*

While this grayish-brown mouse prefers the habitation of man, it is sometimes found in the fields and marshes. Some of the superficial features of this species are the lack of a line of demarcation between the belly and back color, the nearly naked scaly tail, and the prominent ears.

Introduced from Europe about the time of the Revolution, these mice have spread rapidly. The average litter number is from 5 to 7, but there may be as many as 11 young. With the young maturing in about two months, it is no wonder that the House mouse is here to stay.

Meadow Jumping mouse, *Zapus hudsonius*

This species—with its yellowish-brown coloration, its jumping habits and its preference for meadow land—is often mistaken for a frog as it leaps off through the high grass. The tail of this mouse is dark as far as the lighter tip.

Active both night and day, the Jumping mouse accumulates a heavy layer of fat before going into winter hibernation in its well insulated nest, usually located in an underground burrow. The food is predominately grain and seeds of wild grasses, although insects are sometimes eaten. Not so prolific as many other species, these mice apparently breed only twice a year in most cases, the young numbering from 3 to 6 per litter.

Woodland Jumping mouse, *Napaeozapus insignis*

As the name suggests, this species inhabits the woods. It is more sharply two-toned in color than the meadow species, and the tail tip is white.

The nest, in which it sleeps away the winter, is located in a burrow or in the hollow of a log. The food consists of mast, berries and insects. It is reported that this species has made leaps of from ten to twelve feet. One or sometimes two litters are born during the summer, averaging 3 to 6 in number.

Meadow vole (Meadow mouse), *Microtus pennsylvanicus*

This extremely abundant vole of the hay and grain fields is active both day and night. In spite of a voracious appetite (a vole may eat more than its own weight in food in 24 hours) the Meadow vole seldom eats insects — preferring seeds, greens, and bark. Feeding on the bark of trees under the snow, this species may cause great damage to orchards.

These hardy voles are very prolific, a female having been known to produce as many as 17 litters in a year. The litters vary in size from 3 to 10, and the young are ready to breed when they are 3 weeks old. In spite of predation, wild populations sometimes build up to tremendous concentrations. This species probably causes more damage to growing crops and trees than any other native rodent.

Yellownose vole, *Microtus Chrotorrhinus*

Because of its preference for rocky sites, this species is sometimes known as the Rock vole. It is similar in general body conformation to the Meadow vole, differing in the larger ears, smaller hind foot, and the yellowish-orange wash around the nose.

This species is rather rare throughout the State but may be common in certain specific locales. Because of its relative scarcity little is known of its habits.

Pine mouse, *Pitymys Pinetorum*

A soft furred, small-eared mouse that, in spite of its name, is seldom found in stands of pine. Rarely venturing off the ground, this species often constructs extensive tunnels three to four inches below the surface. The young, 2 to 4 in number, are born in snug burrows.

The food consists of fleshy roots or tubers, the mice eating with apparent relish such things as potatoes. And they no doubt take some insects, since they are not averse to eating meat or tearing mice in traps to pieces. Because of their year-round activity they occasionally do considerable damage to orchards by girdling the trees.

Red-backed mouse, *Clethrionomys gapperi*

The red back of these mice blends well with the dark forest floor that is their home. While generally preferring the low moist areas of the woods, this species is sometimes found at considerable altitudes. Active both night and day, it gathers mast, seeds and other food for the long winter months, and since it does not hibernate there is a constant demand for food throughout the year.

The breeding season for the Red-back is long, starting early in the spring and ending late in the fall; with limited predation they become very numerous. They are the most common small mammal of the northern woods. They are good climbers, their gait on the ground resembles a trot rather than a hop. For a nest site natural cavities and the burrows of other species are used.

Palid Red-back mouse, *Clethrionomys gapperi ochraceous*

This is a pale, long-furred boreal subspecies of the Red-back. It is slightly larger and has a more strongly yellowish cast than the typical Red-back, although the habits are very similar.

Lemming mouse, *Synaptomys cooperi*

This species is apparently adaptable to a variety of living conditions, being found in many types of habitat. But there does seem to be some preference for moist open spots in the woods. They seem to be socially inclined, living in scattered colonies. The nest, in which one to four young are born, is usually located in a burrow just below the surface of the ground. The breeding season lasts for nine months.

While this mouse is not uncommon it is seldom trapped, refusing to take bait. The bulk of its diet consists of green vegetation, seeds, and berries. The very short tail, and the groove on the front of the incisors near the outer edge are significant features of this species.

Mice of Ne

Paintings by
H. Wayne Trimm
(Natural Size)

Palid red-back mouse, *Clethrionomys gapperi ochraceous*

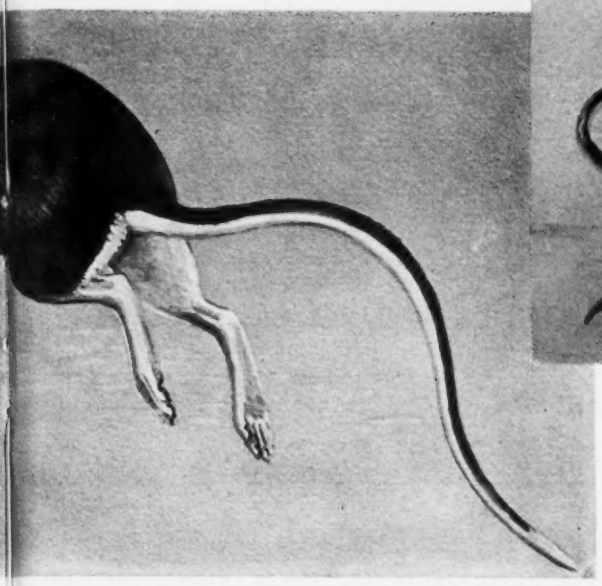
Meadow jumping mouse, *Zapus hudsonius*

Lemming mouse, *Synaptomys cooperi*

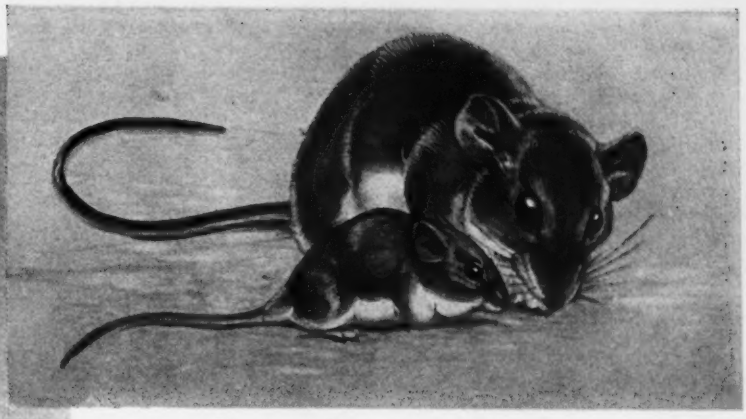
White-footed mouse, *Peromyscus leucopus*

Pine mouse, *Pitymys pinetorum*

New York



Woodland jumping mouse, *Napaeozapus insignis*



Deer mouse, *Peromyscus maniculatus*

Meadow vole, *Microtus pennsylvanicus*

House mouse, *Mus musculus*

Red-back mouse, *Clethrionomys gapperi*

Yellownose vole, *Microtus chrotorrhinus*

SPORTSMEN in the United States contribute to better hunting each time they make a purchase of sporting arms and ammunition. This contribution is in the form of an excise tax of 11 per cent collected by the Federal government and distributed to the individual States. Allotments are made to each state Conservation Department on the basis of land area in square miles and also in relation to the number of hunting licenses sold. This system has been in effect since 1938, and is konwn generally as the Pittman-Robertson (PR) program. The funds can be made available only if the State is willing to match 25 per cent of the Federal contribution with its own funds. This means that for every dollar spent on PR work in New York State, seventy-five cents comes from Federal funds and twenty-five cents from the Conservation Fund.

The amount of money that New York State receives for this program fluctuates each year, but the average annual allotment for the past several years has been approximately $450,000. This has, in turn, been matched by approximately $150,000 from the Conservation Fund, providing a working total of some $600,000 each year.

The U. S. Fish and Wildlife Service is charged with the over-all administration of the projects under PR, but once a project is submitted by the Conservation Department, and approved under PR regulations, it becomes the Department's responsibility to see that the project is conducted properly and the desired results obtained.

During the early and formative years of PR, a substantial part of the funds allocated to our Department were used for research projects. This was necessary because game management, as a science, was relatively new and much information was needed before actual management in the field could be applied. But as more of the required answers and information were secured, more of the funds were allocated for actual management and development work in the field. Presently, about five-sixths of PR funds are going into field development, and only about one-sixth into research to keep us up to date on the continually changing game and field conditions.

Against the background provided by this general introduction, we present now a thumbnail sketch of the various activities that will be operating under PR this year.

Research

Small game mammals project: aimed toward keeping us abreast of the new techniques needed for management of the cottontail, varying hare and several other species. We have already found that stocking imported cottontails does not pay dividends, and have established methods for improving food and cover to hold larger populations. We have found we can re-establish varying hare by careful transplanting of native stock.

Deer project: giving us a great deal of needed information for management of our most important big game species, the whitetailed deer. Most significant aspects are the development of ageing techniques and methods of appraisal of deer range carrying capacity. These studies have resulted in the establishment of periodic harvests of antlerless deer over most of the State to sustain the greatest production and harvest possible. Information gained will be applied in some of the remote areas of the Adirondacks this year. (See page 26.)

Upland game birds project: concerns the requirements for proper management of pheasants, grouse, quail, hungarian partridge, woodcock, and wild turkey. From this work we have found that stocking of artificially propagated game birds must be done with the utmost care or more will be lost than is gained. Also, that greater harvests of the pheasant population are possible without endangering the breeding potential. We hope to discover the answers to successful establishment of the wild turkey, and it will evidently have much to do with natural food supplies.

Cornell Marsh, Washington County

PR for

Waterfowl project: is adding to our knowledge of what is available and what is needed in the way of size, type, location and management of waterfowl areas, to increase their breeding potential. Ten years of banding records in this State are giving us valuable information on where and what management work must be done to provide more waterfowl for the flyways.

Marsh ecology and furbearer research: providing information about site selection for the many small marshes we are constructing and the management of these units after they are established. Methods have been established for making beaver and muskrat surveys from the air to speed up the estimating of populations, upon which estimates are based open seasons established by the Department.

Pathology and physiology project: to investigate disease problems that may periodically threaten game populations. Rabies in foxes, raccoon disease, malnutrition in deer are examples of the studies being made.

Evaluation of habitat improvement study: in co-operation with Cornell University, maintains a continuing check on our extensive food and cover development project to find the best ways of planting and arrangement to provide the greatest benefits to game populations.

Lundy Marsh, Washington County

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Game damage control project: also in co-operation with Cornell, experimenting with, and checking methods for, controlling game damage. Deer versus the orchardist, rabbits versus the nurseryman, and other conflicts are bound to arise when game populations increase. (The beaver has demonstrated a sensational ability to engineer himself into trouble.)

Management

Wildlife habitat development project (48-D): planting millions of conifers (over 38,500,000 to date) and shrubs for food and cover (over 10,500,000 to date) on private lands, where the greatest amount of hunting is done, to improve game conditions. Woodlands are being fenced against indiscriminate grazing (over 46,500 acres to date) and small marshes averaging five and one half acres in size (502 units to date) and pot holes of less than an acre (over 400 units to date) are being established for waterfowl, furbearers and upland game in general.

Oak Orchard development: in Genesee County (2,259 acres) includes 550 acres of flowed land and food and cover plantings; attracts tens of thousands of geese in the spring, and ducks both spring and fall.

Perch River development: 3,800 acres in Jefferson County. 1,450 acres have been flooded and planting of the area promises to provide one of the best waterfowl areas in that region, for both refuge and public hunting.

Vischers Ferry development: 810 acres in Saratoga County. Almost completed as to flooding and planting, and is used as a controlled public shooting area in a section where there is intense gunning pressure on waterfowl.

Three Rivers development: 2,500 acres in Onondaga County. There has been intensive development for upland game and waterfowl which supplies a much needed public hunting unit near a large metropolitan area. This unit is also used intensively for National and State field trials, adding considerably to the sportsman's benefit during the off-gunning season.

Howland's Island development: 3,200 acres in Cayuga County. Once the site of a game farm, now being intensively developed, especially for the propagation of such waterfowl species as canvasback, red-head, pintail and shoveler in an attempt to establish breeding populations of these species within New York State. This area, with its many acres of water impoundments, also serves as an ideal outdoor laboratory for testing techniques of managing flooded areas for greatest productivity.

Capitol District (4,000 acres) in Rensselaer County and *De Bar Mountain* (8,390 acres) in Franklin County have come in for extensive development since the hurricane of 1950 when many acres of standing timber were leveled. The fire hazards of the blow-down were reduced and a threat to the game food and cover alleviated, while substantial amounts of logs were salvaged for use in other projects. At *Lake Alice* (650 acres) in Clinton County, development will provide a waterfowl area in a section where such areas are at a premium. At *Quogue* and *Jamaica Bay* on Long Island, development projects will also be in progress this year.

Acquisition

Several of the areas mentioned under development were originally acquired under PR, including Oak Orchard, Perch River, Three Rivers and Lake Alice. At the present time we have several small projects to round out or fill in these areas. In addition, purchase of the Putnam-Hawley tract (5,000 acres) in Lewis County is underway and also the Three Mile Bay tract (700 acres) in Oswego County. The purchase of these areas should be completed this year, after which necessary development work will begin.

Co-ordination

To plan and maintain such a program as has been outlined and to derive the greatest benefits from it, it is necessary to have the best possible co-ordination of all efforts—from the early research phases to the final development project.

The co-ordination project provides for planning, supervision and integration of all the necessary activities involving the work mentioned above. This entails the supplying of labor, both skilled and unskilled, equipment and materials, and includes such services as aerial reconnaisance, engineering assistance and supplying personnel to negotiate the actual purchase of lands. Research reports must be analyzed and interpreted, applied to field management, made available in technical form for other agencies and field workers, and also produced in non-technical terms for the better understanding of the general public.

We believe that we are placing the "eleven cents for better hunting" that each sportsman contributes when he buys sporting arms and ammunitions to their best use. We are trying to provide for the continuance of the sportsman's heritage, as well as his sport.

—Earl Westervelt,
Project Co-ordinator

Unusual color variation in cottontails

Animal Coloration

by W. J. Hamilton, Jr., *Cornell University*

THE genuine interest in the color of animals, particularly our mammals, is reflected in the many reader inquiries and letters concerning this subject that appear in almost every issue of THE CONSERVATIONIST. A detailed report on this subject would fill the pages of a single issue, so it must be treated briefly here.

While facial, rump and other bare patches occasionally brighten a beast, the colors of most of our native mammals are found in the all protective hair that covers the body. Each hair has pigment of various hues, usually variable throughout its length. Often this color is so distinctive (as in the cottontail), that the dropping of a bobcat or fox which includes hair gives a clue to the prey on which it has dined.

Perhaps of most striking interest is the occasional white (albinistic) or black (melanistic) animal that comes to hand. In the albino, pigment is lacking in the hair and often in the outer layer of skin. Pink eyes are usually an indication of pure albinism, although there are instances in which a piebald pattern (part white and part natural color) accompany the pink eyes. All too often, trappers and hunters believe they have a real prize in an albino and demand a price that is not commensurate with the true value of the beast; odd colors may be interesting, but unless they occur in sufficiency, the fur trade is not concerned with such aberrations. Albinos have been recorded for many New York mammals, most commonly for the deer and woodchuck. The reason is simple: More people hunt and observe these species than other animals. Yet the gray and red squirrel, several mice and shrews, raccoons, muskrats and others, have been recorded in the albinotic "Hall of Fame." Perhaps more would be taken or seen by the human legions that tramp the fields and forest, if it were not for the fact that keener wild eyes pick out these strikingly marked individuals before they nurture white youngsters. Predators find the startling white ones easy prey, and reduce these conspicuous individuals in short order.

Black squirrels, woodchucks and other species that display a dark pigment are of no less interest than the albinos. For years, "black" squirrels have been included with grays in our New York hunting syllabus, not because they are different, but because many hunters hold them to be a distinct species. The black squirrel is a melano, a black individual of the gray. A gray female may spawn a litter of blacks, a mixed family of variable colors, or even produce a white youngster. Since the dark color is dominant over white, chances are for black pigment in the hairs. We have large populations of black squirrels around Bronxville, Buffalo and several other areas in the State.

Years ago black squirrels were common in western New York—about 1890, nearly half of the population appeared to be black. Some old timers claim the cutting of timber, the opening of the woods and the increasing light which resulted, drove the black to its final end. But occasionally we still see a few in the western counties.

Frequently two or more color phases occur in the same species. The black, or silver fox, is none other than our common red fellow, garbed in the lustrous coat that brought fabulous returns to the trapper and fur breeder at the turn of the century. The red occasionally produces a black pup, but the few now taken in New York are mainly escapees from the diminishing fox farms that once produced thousands for the fur trade. The cross fox, half red and half black, appears on occasion in the same litter. Often the cross fox is confused with the gray fox, a distinct species which in recent years has spread into the foothills of the Adirondacks.

We may liken these color phases to that seen in our little screech owl, whose red and gray phase are known to many. On Long Island, the little red owl is abundant, while in the upstate counties the gray predominates. And the red-backed mouse, so common in the Adirondacks this past fall that most hunters on a deer stand could watch the little elves scurrying about on the forest floor, also exhibits "dichromatism," the term applied to different color phases in the same species. Most individuals have a rufous back, but sometimes a gray fellow looks so much like our common field mouse that its identity may be mistaken.

Occasionally a species will show marked sexual differences in color. Our little red bat, who flies so early in the evening that its color may be seen, exhibits this difference. The smaller male is clothed in a bright rusty livery, while the female is chestnut hued.

Seasonal changes are well marked in a few New York mammals. Notable are the weasels and showshoe rabbits, who lose the brown summer coat and don a white livery with the approach of cold weather. Twenty years ago I had a

houseful of weasels, 22 occupying bedrooms, cellar and outdoor enclosures. A fine opportunity to note the color-change, and I surely made the most of this. Among hunters and trappers conjecture is still rife on how this change is brought about. Some insist that a blanching of the hair results in the white coat, while others maintain that a moult is responsible. The latter is, of course, responsible for this variable and seasonal difference in both the weasel and the hare. In late October (the time may vary with the individual but not with seasonal weather conditions), the weasel commences to shed its brown coat and don the white livery of winter. The moult normally occupies a full month, irrespective of snowfall and weather conditions. Even the black tipped tail is replaced by hairs of the same color. In the Adirondack region, practically all weasels change to white, while in western New York 90 per cent of the population undergo this marked transformation. On Long Island, a white weasel is conspicuous only because of its scarcity, since only a few don the ermine of royalty.

The white coat is shed in March, when weasels take on the chocolate pelage of the warm months. Those that do not assume a white pelage shed nonetheless; their new garb is a paler brown than the summer dress. In recent years these brown winter weasels have commanded a higher price than their ermine-coated kin. The snowshoe hare undergoes the same change; the silhouette of a white bunny on the fall leaves, long before the advent of the first snowfall, is familiar to many hunters.

Why this change from brown to white? Folks will debate this in the years to come, as they have in the past. We have no answer. The change may be of survival value to these creatures who approximate in color the environment they occupy, but what of the white hare or ermine on the brown forest floor long before snow has covered their habitat? And how does the weasel survive in late winter, its piebald coat approaching the brown summer pelage while snow still covers the ground?

In time, we may know more about the circumstances and reasons for strange colors, the causes that prompt the manifold aberrations in our common beasts of the field and forest. Those who have read thus far could help by sending such "rarities" to the editor,* who will continue to give his delightful solutions to queries we'd all like to have answered.

* No, friends, send them to Prof. Hamilton at Cornell, regardless of their state of decomposition. If he can enjoy a houseful of weasels, he'll love anything you send him.—Editor.

Wilderness Deer

Legislation for the Controlled Harvest of Antlerless Deer in Remote Sections of the Adirondack Park

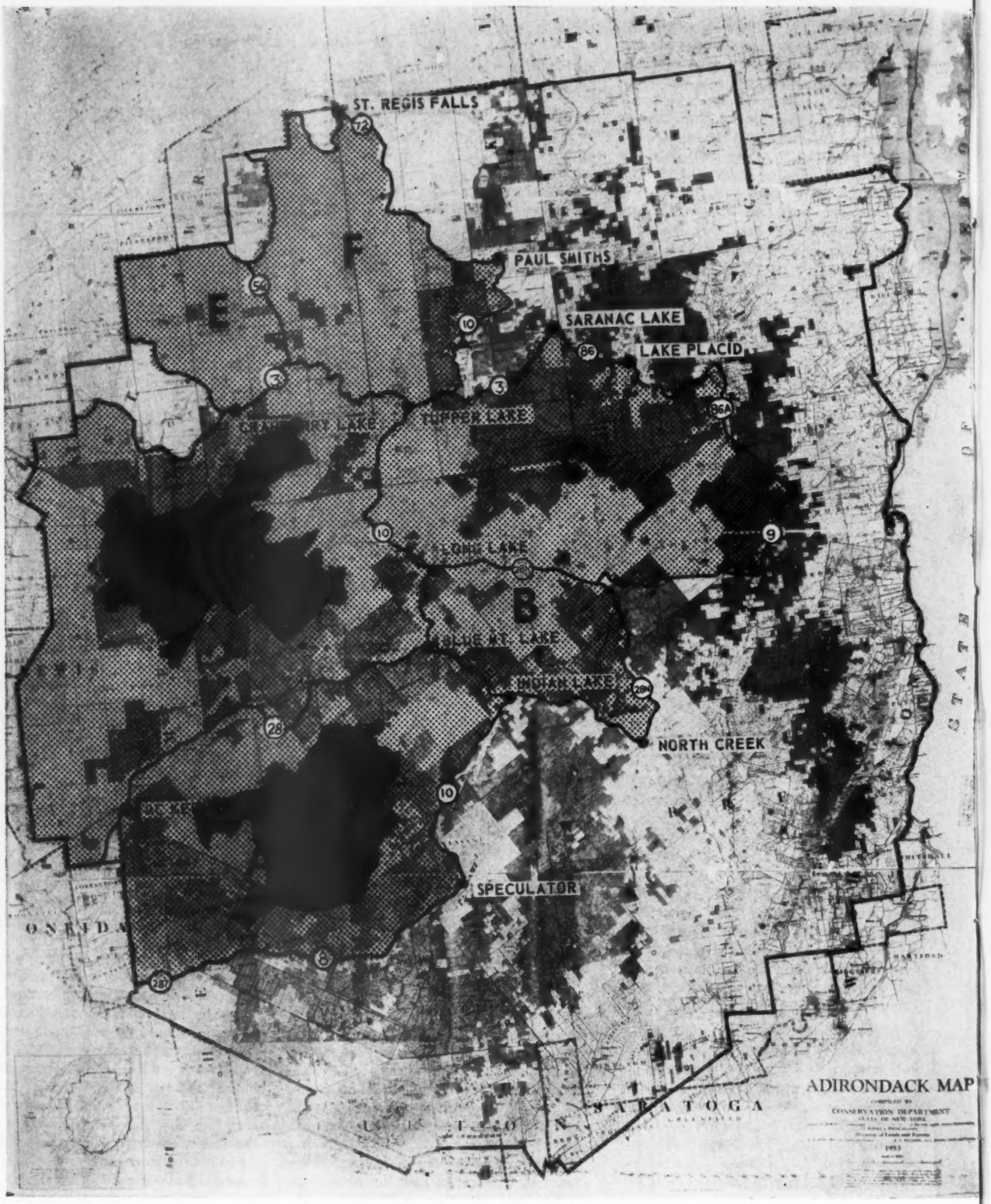
DURING the past year we have discussed publicly a plan for controlled hunting of antlerless deer in certain remote sections of the Adirondack Park. The plan began to take form in consultations with the New York Conservation Council's Committee on Game Damage Control (now known as the Wildlife Management Committee) during the winter of 1952-53. In the April-May (1953) issue of THE CONSERVATIONIST, this writer described the objectives of the plan, the general nature of it, and stated that the plan in more detail would be presented for public discussion early in the fall of 1953. In the meantime more progress was made in working out details of how such a plan might be administered, and an open discussion of the subject was held at the Corning meeting of the State Conservation Council last October. It was generally agreed that the plan merited a trial, and that we should aim for enabling legislation for 1954.

The drafting of such legislation was not easy. Considerable time was required to work out adequate definition of boundaries for the so-called wilderness hunting tracts, none of which was to be closer than three miles to the nearest State, county or township road. Of necessity, these boundaries had to be clearly defined and easily recognizable to the hunter. It was also necessary to consider carefully the nature of the administrative controls necessary to minimize the opportunity for illegal use of the special antlerless licenses.

A preliminary draft was submitted to the Committee on Wildlife Management in February, 1954. This draft included a provision (under the section describing limitation of authority) which would have allowed the Department to set aside the three-mile limitation of tract boundaries on private, posted lands adjoining such tracts, providing the owners or lessees consented. This was incorporated in the bill for two principal reasons:

1. In some areas, deer herds on private lands have grown to the point of destructiveness, not only threatening wholesale damage to natural forest succession on such lands but also promising great depletion in the winter food supply of the deer themselves. These "eat outs" are basically similar to those which occur in the vicinity of established beaver colonies, and they simply mean that either the deer must starve or move to other areas where adequate winter food is present. Unfortunately deer (unlike beaver) usually choose to remain in their home range, and mass starvation often results during the average to severe winters.

2. The terrain of some of the areas



Buck deer, and, with special license, antlerless deer may be taken this fall within the wilderness tracks shown above in darker green

included in this legislation was of such nature that it was extremely difficult to find natural boundaries in vicinity of the three-mile limit to the nearest State, county or township road. As a consequence, several boundary sections of the hunting tracts had to be drawn deeply in the interior, thus leaving out large blocks of country which, from the game management point of view, should have been included for antlerless deer harvests.

The bill was presented for discussion at the meeting of the Conservation Council in Albany, March 3rd. Strong opposition was registered against the provision that excepted private lands from the three-mile limitation, and the proposed bill was endorsed by the Council only on condition that this exception be deleted. This deletion was made and the bill was passed by both houses of the Legislature and signed by Governor Dewey.

Provisions of the law are as follows:

1. Grants the Department authority to declare, by order, open season for taking antlerless deer (bucks with antlers less than three inches in length or deer without antlers) in six areas within the Adirondack Park, and to fix the conditions for taking, possession, transportation, tagging, and issuance of licenses and seals.

2. Provides that authority shall be applied only to the six areas described (see map) and that boundaries of the wilderness hunting tracts shall not be nearer than three miles to the nearest State, county or township road.

3. Provides that the antlerless season shall be held within the regular buck season (though not necessarily of the same duration).

4. Provides that special antlerless deer licenses shall be issued for each wilderness tract, shall be good for no other tract, shall be non-transferable, and that only one shall be issued to any person per season. The Department may set a license quota for each tract. License applications shall not be made earlier than September 15 to branch offices designated by the Department, and applications shall be honored in the order in which received.

5. Provides that Department check stations shall be established at entrance points to open tracts. Licensee shall not be entitled to take an antlerless deer on the tract unless he has first obtained at a check station of such tract a self-locking metal seal, to be issued without charge. To qualify for receiving this seal, he shall have on his person, (a) the special antlerless deer license, and (b) the regular big game license. (If he intends camping for three days or longer on Forest Preserve Land, he must also have obtained a camping permit.) Thus equipped, the hunter may take two deer, one antlerless (on his special antlerless license) and one having antlers not less than three inches in length (on his big game license). The seal shall be attached to the antlerless deer when taken, and in a manner prescribed by the Department. If a hunter does not take an antlerless deer, and leaves the tract, he shall leave by way of a Department check station and surrender his seal to a Department representative at such station. He shall have the privilege of reclaiming a seal should he re-enter the tract for further hunting.*

6. If the hunter personally removes his deer from the tract at the time he leaves, he shall present his deer for examination by a Department representative at a check station and surrender his license for cancellation. Should he arrange to have his deer removed from the tract by another person, following his own departure, he shall surrender his license for cancellation when he departs, and leave the name and address of the person with whom the deer was left with the check station representative. In either case the deer, or the head with seal attached if the deer is used as camp meat, shall be presented to a check station representative at the time it is removed from the tract and in any case not later than five days following close of the antlerless season.

The law further provides that upon opening a tract to the taking of antlerless deer, the order providing for such opening must be announced not later than August first.

THIS plan for liberalizing the harvest of Adirondack deer has been adopted rather than a region-wide hunter's choice (buck-or-doe) season. In this connection it has been pointed out (THE CONSERVATIONIST, April-May issue 1953) that in Adirondack areas easy of access, the annual kill of deer is much heavier than in the remote areas, and that more hunting pressure should be focused in the wilderness country where hunting is normally very light in relation to the total area involved. A hunter's choice season would not accomplish this result. Instead, increased roadside hunting would result, and our objective of attracting more hunting into the back country would probably not be obtained. This is the principal reason for the three-mile limit in defining the wilderness hunting tracts and providing the privilege of taking two deer on such tracts as may be opened; we want the hunting pressure where it is most needed.

The accompanying photograph of the Adirondack Land Map shows the six areas to which this legislation is applicable. It also shows the approximate extent of two hunting tracts which the Department plans to open to antlerless deer seasons *this fall*, the boundaries of which will be fully described in the departmental order declaring such seasons.

Applications for the special licenses will not be accepted before September 15th, when such licenses will be ready for issue at branch offices designated by the Department. These special licenses may be obtained by filing an application and paying the license fee of $1.50, by appearing in person or by writing to one of the branch offices for an application form. This must be completed and returned, together with the license fee, to the field office issuing licenses for the hunting tract chosen. Licenses will be issued in the order in which applications are received until the quota is exhausted.

Upon receipt of each application, the applicant will receive a brochure of information concerning tracts to be opened this fall. This will include a detailed map of each hunting tract, location of Department check stations, and instructions pertaining to the issuance and use of the self-locking metal seals.

We have a special interest in deer management in the Adirondacks: This has been our traditional and principal big game hunting area, and such it continues to be. But the problem we are confronting is one of long standing—since the late 1800's there have existed in remote sections of the Adirondacks starvation areas during severe winters.

It is hoped that this plan for a controlled harvest will be the solution to the problem of unwise use of our Adirondack deer herd, that through the harvest of an overpopulation of deer the range may be saved from excessive browsing—which starts the vicious cycle of undesirable plant successions, increasingly poor food conditions, and periodic high mortality from starvation.

Finally, this plan for deer management in remote areas offers a unique opportunity to sportsmen who really want to get "back in"—and do a much needed conservation job at the same time.

—E. L. CHEATUM,
Chief, Bureau of Game

* If the holder of a big game license has previously killed a legal buck outside the tract he may take only an antlerless deer. Also, any one taking only an antlerless deer within the management tract may later take a legal buck elsewhere in the State during a regular open season. Anticipating that certain questions will be raised on details of law interpretation, it is planned to include a list of questions and answers in the material sent to prospective applicants for special licenses to hunt on the two open tracts to clear up certain points that may be in doubt.

THE BACK OF THE BOOK

Scattershots

And Department Activities

Vacation carefully

With vacation enthusiasm mounting, we hate to go around spreading wet blankets. But most vacationers in this State travel in their automobiles, and the Travelers Insurance Company has come up with some facts and figures on motoring accidents that seem to us to be worth passing along—if you haven't seen them already.

Last year 38,538 persons in the United States were killed, and 2,140,000 more injured in traffic accidents. An all time high for the Nation. Driving too fast killed 13,870 and injured 700,000; 8,600 pedestrians were killed, 269,360 injured. Seventy-five per cent of all traffic accidents happened in clear weather on dry roads; 75 per cent involved passenger cars; 80 per cent of the vehicles involved in fatal accidents were traveling straight ahead; somewhat more than 15,800 persons were killed and nearly 800,000 injured in *weekend* traffic accidents. Saturday was the most dangerous day of the week.

No need to add a moral to this story.

Arsenic and old flannel

Recently, while prowling about a long-deserted farm house in the Helderberg Mountains, Albany County, Carl Craw of the Conservation Department came up with a packet of letters written some thirty years ago. Among them appeared the following surefire method for taking fish:

"Two ounces Oringleberry put into one half pint of rain water and simmer it slowly until it is half wasted. Then let it be nearly cold then put into it half an ounce oil Rodicum. Then get as much flour as will make a paste and also get a piece of old flannel and clip it into small pieces to mix in the paste. Then make it all into pills as big as peas. Then put in the water where the fish come most. The hair of the flannel keeps it from melting when in the water. There is some fish that take better than others. Soon after the fish have taken it they become stupid. Some it kills. Then you may take them with a seine or spoon net if in a boat. P. S. They are none the worse to eat."

Ed. Note: Despite assurances given in the postscript, there were no signs of the former inhabitants.

Closed areas

All salvage areas, except those listed below and some small local safe areas, will be open to the public this spring, The locations given are general. For detailed information, please contact the District Forester in charge.

ESSEX COUNTY (District Forester W. E. Petty, Ray Brook): E-8, E-22, E-23, E-8R-2, situated in the Cold River area; E-3, E-3R-2, E-24, located at the head of Lake Placid; E-16, located in Stony Pond area.

FRANKLIN COUNTY (District Forester W. E. Petty, Ray Brook): F-5, situated in Meacham Lake area; F-2, F-11, located near Axton.

HAMILTON COUNTY (District Forester M. C. Fisk, Northville): *near Raquette Lake*, HA-65, vicinity of Shallow Lake and Sucker Brook Bay; HA-11, between Uncas and Sagamore Road; HA-36, between Bear and Death Brooks. *Near Seventh and Eighth Lakes*, HA-17, *Near Blue Ridge Mountain*, HA-27, vicinity of Ernie Brown's Camp in Twp. 34. *Near Long Lake*, HA-57-R-1, south of Owlshead Mountain; HA-57R-2, between Buttermilk Falls and Owlshead Pond; HHA-4R, east of Blue Mountain Lake and Long Lake Road; HA-44, west of South Pond. *Near Indian Lake*, HA-43R-1, at Round Lake.

HERKIMER COUNTY (District Forester A. J. Woodford, Herkimer): HE-1, located north of Woodhull Creek in Adgate's Eastern Tract and Cramer Tract; HE-2, HE-3, located west of Atwell in Blake Lot, Adgate's Eastern Tract; HE-4, located east of White Lake and north of Woodhull Creek in parts of Woodhull Tract and Cramer Tract; HE-5, located northeast of North Wilmurt in Nobleboro Patent; HE-7, located near North Wilmurt, in parts of Remsenburg Patent and Nobleboro Patent; HE-8, located north of North Lake Road in Miller Tract; HE-18, located north of Atwell in Blake Lot, Adgate's Eastern Tract.

ST. LAWRENCE COUNTY (District Forester W. F. Pratt, Canton): St.L-6, St.L-6R-1, located near N.Y.S. Ranger School, Wanakena; St.L-S-4, situated near Five Ponds; St.L-8R-1, St.L-8R-2, St.L-8R-3, located in Otter Pond Griffin Rapids region.

Notice to plantation owners

Here is one way to get your trees pruned for free, according to the experience of a Forest Practice Act co-operator in Delaware County:

For the past three years he has been furnishing the branches "on the hoof" to an enterpriser who bundles them up (20 boughs to the bundle) and sells the bundles for Christmas greens or other types of decorations for $1.50 apiece. The pruning is being done in accordance with accepted forestry practices and it looks as though the operation might be extended next year to include some thinning.

Excavating and prospecting at New Hampton

The rich, geologic past of New York State is yielding its secrets daily to boys at the Annex of State Training School for Boys at New Hampton, an institution maintained by the Department of Social Welfare for the rehabilitation of juvenile delinquents.

Excavation work, necessitated by a need for additional outdoor recreation areas on the school property, has brought to light a generous collection of prehistoric fossil specimens including trilobites, Devonian cup corals, Silurian chain corals, bryozoans, pelecypods, brachiopods, cephalopods, and gastropods, in addition to a broad variety of rock and mineral specimens.

Although no formal program for the study of such material exists at the present time, various boys, aided and encouraged by interested teachers and supervisors, have devoted some of their leisure time to the activity. Materials supplied by the New York State Museum and State Geologist Winifred Goldring have been of value in the identification and classification.

Among the interesting "finds" was a huge block of marl which indicated clearly the process of stratification. This boulder, weighing more than a ton, was totally unrelated to the terrain in which it was buried, giving rise to the belief that it is an "erratic" pried loose from the bed of some ancient watercourse and carried here by glacial action. A store of fossil invertebrates in excellent condition were removed from it by the boys.

The recent discovery of the skeletal remains of a mastodon at nearby Vernon, New Jersey, has increased the energies of the embryo paleontologists at the Annex, and has lightened the drudgery of excavation, as well as providing a new interest for many boys.

One mud-covered "prospector" summed it up neatly in these words: "Digging is fun if you know what you're digging for. You never know what you'll turn up with next!"

—GLENN W. KERFOOT,
Senior Boys Supervisor,
New Hampton

Even then, a lamprey

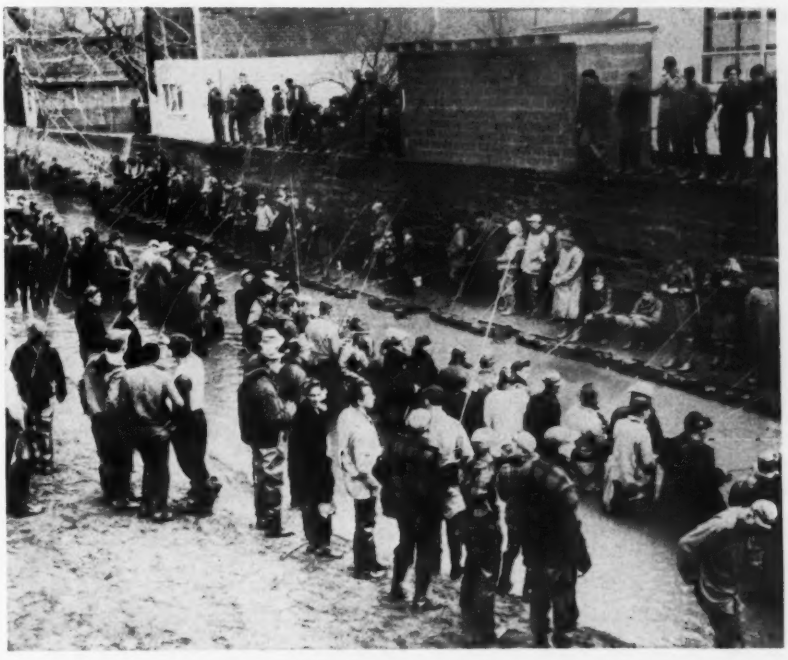
". . . Then Vibidius whispered to Balatro, We will die unavenged unless we drink him bankrupt,' and called for larger cups.

"At that our host grew pale, as he has a horror of hard drinkers, either because their talk is too free, or because hot wines dull a delicate taste.

"Vibidius and Balatro tilted whole decanters into Allifan goblets. Everybody followed suit except the guest on the lowest couch, who took care to drink little.

"Then a lamprey, with shrimp sauce, was brought in, stretched full length on a platter. At this the host remarked, 'It was caught before spawning. If caught after spawning its meat is poorer. Here is the recipe for the sauce: oil of the first pressing from Venafrum; roe from the juices of the Spanish mackerel; wine five years old, but domestic, poured in while the sauce is simmering—after the sauce is cooked. Chian is the best wine to pour in—white pepper, and vinegar made from fermenting Lesbian wine. I was the first to point out that green rockets and bitter elecampane should be boiled in the sauce. Curtillus says to add sea-urchins unwashed, for the shell-fish's natural brine is better than any pickle'."

(From "Rich Man Dines," Book II, Chapter 8 of *The Complete Works of Horace*. This quotation was sent us by James R. Westman.)



Talk about Fishing Pressure: Anglers jockeying for trout and elbow room, Opening Day on Catharine Creek.

1954 Beaver Harvest

The weather is always one of the biggest factors in determining the success of any beaver trapping season. In two sections of the State, namely west of the Finger Lakes region and in the lower Hudson region, the weather was extremely co-operative and afforded open water trapping with few freeze ups. In the central and eastern portions the weather conditions in general were only fair, due to alternate freezing and thawing which made trapping more difficult. In the northern regions, particularly in the central Adirondacks, the weather conditions were very unfavorable for trapping beaver. The spring break-up in this area had started before the season opened, but a spell of cold weather during the season, accompanied by intermittent thawing, resulted in wet snow and thin ice which made trapping extremely difficult. As a result the Department ordered a ten-day extension of the season in the central Adirondacks—which afforded better conditions, but many trappers were unable to take advantage of it.

All reports were generally in agreement that the trappers were satisfied with the length of the season and the season dates. As to the trapping pressure, it appears that somewhat fewer trappers were afield than last year. This was apparently caused by the fact that the price of beaver fur has continued to drop, while in certain sections adverse weather conditions kept many trappers out of the woods.

The harvest appears to have been adequate in relation to the available beaver crop—with the exception of the central Adirondack region and in local situations where private posting of land prevented trappers from harvesting the surplus. In these localities excessive beaver populations will continue to be a problem. Reports of beaver tagging by Game Protectors indicate that a total of 5,826 beaver were taken during the season by 1,478 successful trappers. *A comparison* with the previous five years tagging records is shown in the table below. Also shown is the take by counties for 1954.

In certain counties an open season for otter ran concurrently with the beaver season. Otter trapping as such is very limited, and most of the otter were taken in traps set for beaver.

Beaver and Otter Take

Year	Beaver	Otter*
1949	1966	83
1950	3034	41
1951	6002	123
1952	6731	127
1953	9194	198
1954	5826	215

*Does not include otter taken during fall and winter seasons.

Beaver

County	Tagged	Trappers
Albany	67	20
Allegany	84	36
Broome	49	26
Cattaraugus	131	65
Cayuga	3	2
Chautauqua	185	76
Chenango	53	20
Clinton	154	41
Delaware	28	10
Erie	15	7
Essex	393	101
Franklin	351	137
Fulton	117	30
Genesee	9	5
Greene	53	25
Hamilton	1,005	162
Herkimer	593	109
Lewis	607	99
Livingston	5	4
Madison	43	15
Monroe	0	0
Niagara	0	0
Oneida	67	15
Onondaga	5	3
Ontario	11	7
Orleans	12	1
Oswego	45	17
Otsego	44	21
Rensselaer	49	17
St. Lawrence	957	175
Saratoga	75	19
Schoharie	19	10
Seneca	0	0
Steuben	101	46
Sullivan	206	63
Ulster	0	0
Warren	211	57
Washington	22	10
Wayne	4	2
Wyoming	31	15
Yates	22	11
Total	5,826	1,478

Otter

County	Tagged	Trappers
Cayuga	0	0
Clinton	4	3
Essex	19	8
Franklin	16	7
Fulton	13	8
Greene	0	0
Hamilton	62	36
Herkimer	31	21
Lewis	18	13
Madison	0	0
Oneida	3	3
Oswego	0	0
Rensselaer	1	1
St. Lawrence	37	18
Saratoga	1	1
Sullivan	8	6
Warren	2	1
Total	215	126

Muskrat Season, 1954

On January 13, after the annual fall survey of muskrat marshes had been made, and after much studying, conferring, and 'phoning the field men to make adjustments, the long awaited Department order regulating the taking of muskrats was issued. At last we could give straight forward answers to people who had been telephoning since early November that the open season in the Northern Zone had been set from March 1st through April 10th, and in the Southern Zone from February 1st through March 10th.

Of all the furbearing animals which are harvested, the muskrat furnishes the greatest annual income to trappers of New York State. But it is also true that muskrats are more vulnerable to overtrapping than most of our other furbearers. The Conservation Department therefore has the double responsibility of making the open season long enough to provide the trapper an adequate opportunity to harvest the surplus, while at the same time limiting the open season to such an extent as to prevent an undue depletion of the breeding stock which will be needed to produce the next year's crop. The Department has also been following the policy that the muskrat season should be held at a time when the pelts are prime.

As with beaver, the weather conditions which prevail during the season are a controlling factor in determining whether an adequate harvest will be possible or whether overtrapping of the breeding stock is likely to occur. If the spring break-up comes late in the year there is likely to be very little open water trapping during the open season which results in an inadequate harvest. Such was the case this year in certain of the northern counties, and in order to allow a more adequate harvest the Department declared an extension of the muskrat season for an additional ten days in the Counties of St. Lawrence, Lewis, Hamilton, northern Herkimer and in the Townships of Minerva and Newcomb in Essex County.

In the remainder of the State it was felt that an adequate opportunity to harvest the muskrat crop had been afforded—even though weather conditions were not ideal in many sections. In general the trappers seemed to be satisfied with the length and dates of the season, although the number of trappers was somewhat less than in previous years, probably due to the low price of furs. Owners of registered muskrat marshes were permitted additional time to remove their crop of 'rats in several instances where their applications were justified.

—R. B. Colson

Another Lynx

Until November 22, 1951, the last record of a Canada lynx in New York dated from 1907, when two (now in Cornell University's collection) were taken near Ithaca. But on that fall day in 1951, a bona fide lynx was shot by a 16-year-old deer hunter named Harold King in Washington County. So the lynx was back.

And now we have evidence that the lynx was back even before that. The photograph above, sent to us by Winfield Weaver of Hudson Falls, shows a lynx killed near Argyle (also in Washington County) in 1940 by "someone by the name of Tilford." To date, we have not been able to dig up any further information on this 1940 incident, but the animal is certainly a lynx.

Grouse field trials

The Pharsalia Game Management Area, near Norwich, was again host to National and State grouse trials this spring. This is the third in a series of National stakes held at Pharsalia and it is anticipated that the Grand National Grouse Championship will again be held there in the fall of 1955.

This spring the Puppy Classic of the Grand National had an entry of 19 puppies. The morning of April 8 saw it off to a wet start, but clearing weather in the afternoon made for better going. Inspectors General Jim, a setter dog (Mass.) owned and handled by Mike Seminator took first place with Zenith, a setter dog (Mich.) owned by John Hadaway and handled by Luther Smith in second place and Skyway Babe, (New Jersey) owned by O. Elmer and handled by Paul Kundra in third place.

The real eye opener at Pharsalia was the turn out of field dog owners for the four stakes (Open Derby, Open All Age, Amateur All Age, Novice) presented by the Central New York Grouse Trial Association. There were 22 entrants in the novice stake alone who had never seen a grouse trial before. In spite of not knowing the ropes, they put on an excellent show and moved 36 grouse, more than all other stakes combined. The crowd of people in attendance was greater even than attendance at the Grand Nationals in 1949 and 1952. It was certainly an indication of increasing interest in field trials and gun dogs on the part of a large group of sportsmen.

Facilities at Pharsalia continue to be improved each year, and, with the competition of field dogs on national and State-wide scope, we feel that good field dogs will become more and more a part of good conservation. Such trials permit use of field dogs throughout the year, as well as more intensive usage by the sportsmen of our public lands.

Sugaring off

Leon Wright of Franklinville, down in Cattaraugus County, has been working-over his 100-acre sugar-bush for the last 25 years, and there is no better place to observe the results of intensive sugar-bush management. Just about everything but the sugar maple has been cut out and used for wood in the sugaring operation. And when you learn that Mr. Wright hangs out 6,000 buckets a year, you can understand that it takes a lot of wood to boil his sap.

It is especially fortunate (for the foresters, anyway) that one section of the woodlot was left without any treatment, so it may be compared with the treated portion. A roadway separates the treated and untreated stands at one point, and here the difference is very striking: The trees in the area where systematic thinning has been carried on average 14 inches in trunk diameter, while those in the untreated average six inches, with hardly a tree that is big enough to tap.

Mr. Wright is a co-operator under the Forest Practice Act, which aims to assist woodland owners in practicing good forest management. But in this case, he is way ahead of us.

10 Commandments of hunting

(From the Nevada Fish & Game Journal)

1. Thou shalt not employ others to kill thy game for thee, or count game killed by others.

2. Thou shalt speak to the farm owner of land in a gentle grace and kindly entreat him to let thee hunt on his premises, lest he boot thy north end from his domain.

3. Point not thy gun toward any living thing that thou dost not wish to kill. Lo, there are fools and idiots wandering to and fro on the earth, but he who fails to observe this rule is verily the King Imbecile.

4. Shoot not thy gun toward any cattle, swine, or farm livestock within one-fourth mile of thee. If thou shalt disobey, this, the farmer will jab thy pants with his pitchfork till thou roarest for help and thereafter must eat thy meals standing.

5. Unload thy gun before thou enterest an automobile. Then may thy days be long and thy funeral postponed.

6. Take not thy gun by the muzzle to draw it toward thee. Verily, some foolish human may love thee, and why shouldst thou die?

7. Look not into the muzzle of thy gun whether it be loaded or empty. Verily, an empty gun shooteth out an inquiring eye, and the undertaker groweth rich thereby.

8. Thou shalt not carry thy gun cocked. Verily thou art a mighty hunter, but the hides of thy friends will not turn shot.

9. Climb not fences with thy gun in thy hands. Put thy gun through first with the muzzle pointing away from thee and all living things. Better to miss a chance at one crow than to return to thy house with guilt in thy heart and thy friend's hind leg in a basket.

10. All these rules thou shalt obey and live past three score and ten. If thou failest, thou shalt sleep in thy nice new coffin or in the prison cell while the mourners go about the street.

Game Protector Francis R. Murdock put an end to the life of this dog (and another not shown), for running down and killing this deer on Schroon Lake in February. Lee Ten Eyke and Roger Du Puis, Schroon Lake, owners of the dogs, were fined $25 each.

Working for the Conservation Department

IT'S usually a dull day in the Conservation Department when at least one inquiry isn't received from someone interested in the kinds of jobs the Department has. To help make this type of information more accessible, there was begun several years ago in THE CONSERVATIONIST a series of descriptions of certain jobs in the Department. The jobs described comprised the so-called entrance level jobs—in other words, those in which new appointees would have to begin. The series of descriptions did not include positions in the higher levels which are filled only by promotion, nor did it include the various types of office jobs which exist generally throughout State service.

The series is concluded in this issue with a statement of requirements for the position of Conservation Aide. It would not be complete, however, unless some emphasis were placed on certain aspects common to *all* of these jobs.

First, let's consider the functions of the Department. Our lands, forests, waters, and wildlife are basic and essential natural resources of the State. It is the Department's job to manage these resources for the greatest good of the most people. Among the things that must be done by the Department in order to obtain the information it needs about these resources are the various research activities that must be carried on. For example, to administer a wildlife conservation program information regarding the habits, life history and similar data regarding the various species must be obtained. To obtain this information trained biologists are needed. Similarly, foresters and engineers are needed for the Department's work in connection with forests and water resources. And the management of a resource includes its protection; Forest Rangers are needed to protect the wood lands of the State from fire; Game Protectors are needed to enforce the fish and game laws for the protection of fish and wildlife. Nor is the Department's function limited simply to conserving these resources. Of even greater importance is its responsibility to improve these resources and make them more abundant.

The functions of the Department are as complex as Nature itself, and that brings us to the second point—the kinds of jobs needed to perform these functions. Some have been mentioned in the preceding paragraph. In addition, there are jobs in the fields of game management, aquatic biology, forest fire protection, hydraulic and civil engineering and outdoor recreation. Many of these jobs, because of their scientific character, require personnel who have received college training in either forestry, biology or engineering. Others, such as Game Protector, Forest Ranger, Conservation Aide, Campsite Caretaker, and Forest Fire Observer do not require any specific training, but only certain aptitudes or experience on the part of the personnel performing them.

At this point, it may be well to point out that a person seeking employment in the field of Conservation must have more to offer than "a love of the out-of-doors" —or as some applicants put it, "I think I would like conservation work." An interest in conservation work is a necessary qualification, of course, but that interest must be accompanied by training or experience—or both—that the Department can *use*. Persons with degrees either in forestry, wildlife conservation (or for some jobs, engineering) can offer training which is most valuable in the Department's work.

In New York State, persons seeking training in professional forestry can obtain it at the New York State College of Forestry at Syracuse University. The New York State College of Agriculture at Cornell University offers courses in wildlife conservation as well as in fisheries work. In addition, the New York State Ranger School at Wanakena, gives a one-year course providing splendid training for certain forestry positions in the Department. Since these are all State schools, they are tuition-free to State residents. Among the private schools, Paul Smith's College at Paul Smith's, gives a two-year course in forestry.

While there are a variety of jobs in the Department, the number of any one type of job varies at the entering level from three or four to the 160 Game Protector positions. This, plus the relatively low turnover which the Department finds in its jobs, means that the number of employment opportunities occurring annually in any one field of work is relatively low. On the other hand, a person entering the Department as a Junior Forester, for example, has an opportunity for a real career. Similar career opportunities exist in the other phases of the Department's work; with only one or two exceptions, every top level job in the Department is filled by men who came in at the entrance level in their fields of work and advanced by promotion.

The reference made to low turnover and careers brings up the last aspect of the Department's jobs—the kind of people who work in them. I had the privilege of being the Department's personnel officer for over seven years. Now that I am no longer an employee of the Department, I can say this: That I don't know of a group of employees anywhere in the State service who are more dedicated to their work and who basically do more good for the people of our State than the people who work in the Conservation Department. The reasons are simple. First, the work the Department is engaged in holds a tremendous interest and challenge for its employees. Second, the employees in Department jobs didn't go into that kind of work just to make a living; if that were the case, many of them could be making a much better dollars and cents living in some other kind of work. The rewards found in the satisfaction and sense of accomplishment which their work provides were, I believe, much greater reasons. This all adds up to a working force in which each member is making a contribution of vital importance to the welfare and economy of the State. Under such conditions, high morale flourishes.

These are some of the aspects of Conservation Department jobs which couldn't be expressed in the cold print of the descriptions which previously appeared in this magazine. I hope that what I have had to say here will breathe life into these jobs—not only by pin pointing the very real purpose which they serve, but to also show the opportunity that they provide for public service of the highest order.

—WILLIAM E. TINNEY

Conservation Aide

SALARY: From $2,611.28 at time of appointment to $3,411.68 in five annual increases. This salary range includes the present cost-of-living adjustment.

CIVIL SERVICE STATUS: Non-competitive class of civil service. No competitive examination required.

POSITIONS (NUMBER AND LOCATION): There are seven positions in this title assigned to various areas of the State.

PROMOTION OPPORTUNITIES: There is no direct line of promotion from this position. However, employees in this title who possess the qualification requirements may compete in open competitive civil service examination for higher grade entrance level positions in the Department.

WORKING CONDITIONS: Work is performed out-of-doors the year 'round. It involves considerable walking in rough, wooded and mountainous country, frequently under adverse weather conditions. The basic work week is six days and 48 hours, except as modified by the nature of the work to which assigned. Employees in this title earn 24 days vacation each year and earn one day of sick leave credit each month. Unused sick leave may be accumulated to a maximum of 150 days. Reimbursement is made for expenses incurred while on official business.

RETIREMENT: Membership in Retirement System compulsory. Employee contributes on a payroll deduction basis. Variety of retirement benefits are offered.

DUTIES: Under general supervision, assists a Game Research Investigator or District Game Manager in carrying out game management activities or game research investigations. Research—performing field work including observations and gathering data in connection with various research studies. Organizing and tabulating data including drawing maps and graphs preparatory to their analysis and interpretation. Caring for specimens being collected for laboratory tabulation or being held for comparative purposes. Management—handling wildlife damage complaints, trapping and carrying out predator control operations. Assisting in game management surveys in connection with land acquistion, game range analysis, population studies, etc. Assisting in local soil conservation programs by supervising tree and shrub planting crews and related wildlife restoration practices.

QUALIFICATION REQUIREMENTS: *Physical:* Good physical condition, active, and freedom from any disabling mental or physical defects. *Education:* No specific requirement, although high school graduation or its equivalent is preferred. *Experience:* Three years of satisfactory experience in one or more non-technical phases of wildlife conservation such as a professional trapper, guide, or in any other occupation which would provide a good knowledge of wildlife conditions and habits or the factors affecting wildlife abundance in this State.

SPECIAL KNOWLEDGES AND SKILLS: Good knowledge of present day conservation practices and conditions. Must be able to carry out satisfactorily assigned game management and research duties. Possess integrity, resourcefulness, and good judgment.

NOTE: This concludes the series of occupation descriptions of Conservation Department positions which began in the February-March 1951 issue of THE CONSERVATIONIST. It is expected that these descriptions will be published as reprints in pamphlet form for general distribution to persons interested in entrance level positions in the Department.

—WILLIAM E. TINNEY

Bert Camp

After a brief illness, Forest Ranger Bert Camp of St. Regis Falls died on May 11th. He had been a Ranger for 33 years.

Although an excellent Ranger in all respects, Bert Camp had a special ability which will make his death an even greater loss to the Department; he had a mechanical and engineering know-how which made possible the construction of much of the modern fire-fighting equipment now in use in this State. He drew the plans for the first practical forest fire-fighting truck used in the Northeast, and most of the fire trucks operated by our own Bureau of Forest Fire Control were built under his supervision at the Ranger headquarters at Saranac Inn. His particular genius was also responsible for the development of many other types of modern fire-fighting equipment.

Small Game Committee

Some years ago, plagued by the recurrent damage problem caused by an unruly deer herd on agricultural lands in the State, the New York State Conservation Council established a deer damage control committee to work with the Conservation Department, individual landowners, and farm organizations to help formulate control measures and a management program for New York's big game resource. So effectively has this committee operated in the big game field that the Council, at its last annual meeting in the fall of 1953, set up a companion small game committee.

The purpose of the committee is to represent the best interests of the sportsmen in regard to management, seasons, and bag limits for small game in the State. The group is set up to work closely with Conservation Department personnel and to assist in every way possible with information, recommendations, and publicity to obtain for the hunters and the landowners of the State the best and fairest regulations.

Conservation Commissioner Duryea has offered full Department co-operation. With his approval, Dr. E. L. Cheatum, Director of the Division of Game, has started active work with the group and the first committee meeting was held at Cazenovia on May 12.

The small game committeemen by no means intend to pose as experts on game management, game abundance, or in any other related professional field. On the other hand, it is hoped that the opinions and influence of this group will be of real assistance to the Department's Game men.

Members of the committee, selected by President Thompson of the Council, come from each of the Game Management Districts. They were selected on the basis of their knowledge of hunting conditions in their areas. Following are the committee members: F. A. Demeree, Bainbridge; Arthur Currier, Cincinnatus; James Ford, Broadalbin; Otto Frank, Middleburg; John A. Litts, Camden; Harold Dash, Wellsville; Robert Liddy, Saranac Lake; F. C. Edsall, Cape Vincent; Don Tobey, Victor; William Weers, Carmel.

The Conservation Council anticipates that through the work of this committee, a mutually beneficial understanding between sportsmen, landowners and the Conservation Department may come about. Great care and much compromise will be necessary to devise equitable and sound programs and to fit the many important local considerations into the best State-wide pattern possible.

—F. A. DEMEREE, *Chairman*

LETTERS

To The Editor

State Land Sales

Gentlemen: Recently the Board of Commissioners of the Land Office has received a great many inquiries from fish and game clubs and associations throughout the State relative to the purchase or leasing of State-owned lands for the purpose of creating private hunting and fishing preserves.

Apparently the item contained on page 28 of your December-January 1953-54 issue has been misinterpreted by many people.

In drawing this to your attention I thought perhaps you might care to carry a follow-up statement clarifying the situation. I am a little apprehensive lest the erroneous interpretation of the item become widespread, resulting possibly in some hard feelings by the applicants when they are disappointed.

While it is true that Section 33 of the Public Lands Law does authorize the Board of Commissioners of the Land Office to sell unappropriated State lands, there are very few, if any, items remaining on the unappropriated State land list which could be devoted to such preserves.

The last tax sale by the Comptroller of the State of New York was held in 1926 and practically all the lands acquired through that sale have since been disposed of. Since 1926, sales of lands acquired through foreclosure of tax liens have been conducted by the county treasurers of the counties in which the lands are located.

I would also call your attention to the fact that there can be no unappropriated lands in the Forest Preserve counties other than lands located within the limits of incorporated cities and villages or Loan Mortgage lands, since Conservation Law places all other State-owned lands in such counties in the Forest Preserve. There are seven or eight such Loan Mortgage parcels.

There is no list of unappropriated State-owned lands available for distribution. The list may be examined at the office of the Department of Taxation and Finance, 1675 Broadway, Albany, New York, between the hours of 8:30 a.m. and 5:00 p.m., Monday through Friday, legal holidays excepted.

A. J. McLoughlin, Secretary

Roses for the North Country

Dear Editor: The multiflora rose, a suitable hedge material for the central and southern part of the State, does not appear to be sufficiently hardy for the northern Adirondack region. The writer has attempted to grow multifloras in Franklin County near the slough connecting Upper St. Regis Lake and Spitfire Lake with complete lack of success. The few plants that survived the winters have made insignificant growth. These results are in accord with hardiness information contained in the authoritative "Shrubs and Vines for American Gardens," by Donald Wyman.

In looking about for a substitute for the multifloras, the writer has planted the Rosa rugosa of Japan and the native Rosa virginiana. Both of these roses are classified in Dr. Wyman's book as sufficiently hardy for the Adirondack area, and both have done well for the writer. The rugosa, with its heavier canes and more rampant growth, seems to make the denser hedge. For some applications the attractive red color of the virginiana stalks, together with the fact that the hips (fruits) remain on the plants in an excellent condition far into the winter, may be an advantage. On the other hand, the rugosas make up for an uninteresting winter appearance by blooming during almost the entire growing season.

Perhaps the cinnamon rose, which has naturalized itself in several places in the northern Adirondacks, should also be considered for hedges in this area.

The rose hedges are so attractive and useful in many ways it does seem that conservationists and land owners should use them more widely in the North Country. It is to be hoped that the hardy species roses will become more available at prices comparable to the figures at which the multifloras are offered.

John B. Trevor, Jr., New York City

4-Color Covers

Dear Sir: In the school we have for fish wardens, we have used THE CONSERVATIONIST quite a lot in order to give our students an idea of fishing in the eastern U.S.A. It has proved of great value to us and I would like to state my appreciation.

The illustrations of fish on the cover which you have had the last five years—I am wondering whether you could let me have a copy of each of these? The ones I have, I am sorry to say, have been mishandled quite a bit, but this time I will see to it that I get some protective cover put around them.

Ph. Wolf,
Swedish Salmon & Trout Assoc.,
Malmoe, Sweden

• *Very sorry, but we have no reproductions or reprints of any of the 4-color work that appears either inside the magazine or on its covers.—Editor*

Survival Kit

Dear Editor: Can you tell me where one may purchase the Survival Kit, shown on page 24 of your Feb.-Mar. issue?

William Mellon Eaton, New York City

• *Write to Wm. H. Wadsworth, Tab Tent Company, 340 Vincent Street, Syracuse. We are also informed that Army & Navy Supply, 534 Broadway, Albany, has some kits on hand. —Editor*

Dear Sir: I was particularly interested in the article entitled "Survival" by William H. Wadsworth, which began on page 24 of the February-March, 1954 issue. If reprints are available, I would very much appreciate receiving 25 copies so that these may be furnished to wildlife biologists of this Service who carry on field investigations throughout Canada.

V. E. F. Solman, Assistant Chief,
Department of Northern Affairs and
National Resources, Ottawa, Canada

Douglas Fir

Dear Editor: In an article in a recent CONSERVATIONIST I read all about the pines, spruces and larches used in the reforestation of State land. I read nothing about one of the largest lumber producing species in the U. S.—Douglas fir. Has there been any information collected about this species since being introduced to the East?

On my vacation this summer I paid particular attention to the areas of State land affected by the blow-down of 1950. After three growing seasons and good salvage operations, the stands look good. Stumps and tops are rotting and reproduction is quickly healing up the wounds of the land. I bet that in ten years the layman couldn't tell that man has been in these places with tractor, horse and chain saw. A good job, fellows.

Charles E. Hartnett, Melrose

• We use Douglas fir in our New York reforestation program. As a matter of fact, we have been using Douglas fir to a limited degree during the past 20 years. Our object in growing it, however, has been Christmas tree production rather than lumber. We do not feel that Douglas fir has anything to offer as a timber tree in comparison to the pine, spruce and larch which are the backbone of reforestation programs. In addition, it is a rather fussy tree as to site requirements and, unless planted in sites which are protected from late spring frosts, suffers great damage from this source in its earlier stages of growth. It is good enough as a Christmas tree however, so that it is worth planting on appropriate sites just for this proposition alone and is considerably better to handle than the native balsam.

Douglas fir has also been planted to some extent in New England, but many of the plantations have succumbed during the past 15 years to a leaf disease. This has been found in one or two localities in Eastern New York, and that is another reason why we don't feel we can go all out for Douglas fir until further observations are made on the progress of this disease. I might add that the only form of Douglas fir which will succeed here in the East is the one from the Rocky Mountains or interior British Columbia; the coastal form is not hardy here.—E. W. Littlefield

Bird Club Federation

Dear Editor: In reply to the letter from Mr. Daniel Smiley of Mohonk Lake which was published in THE CONSERVATIONIST on page 39 of the April-May, 1954 issue, I would like to say that there is a Federation of New York State Bird Clubs. This group was organized in 1947.

This Federation is made up of bird clubs, Audubon Societies, nature, natural history and conservation clubs. In addition to club membership there is provision for individual membership.

The Federation publishes a quarterly magazine called "The Kingbird," supports many conservation measures, and holds annual meetings in various parts of the State. The next one will be at Cornell University this September. In addition to the above the Federation sponsors an exchange of local publications which helps to keep local groups in touch with each others' activities.

The Federation of New York State Bird Clubs seems to be a made-to-order answer for Mr. Smiley's request. We would be delighted to have Mr. Smiley become an individual member and to have his local club apply for membership.

Mrs. William Gary Irving, West Nyack,
Recording Secretary,
The Federation of
New York State Bird Clubs

Black-headed Deer

Gentlemen: I saw what I thought was an unusual animal several days ago and thought you might be interested in hearing about it. On last Sunday, March 15, toward Pine Hill, about one mile south of the village, I saw six deer in a field. We stopped to watch them and then saw that one of them had a black head and neck. We watched them for some time, and there was surely no mistake; the head and neck down to the fore shoulders were really black.

Is this an unusual occurrence? None of us ever saw anything like it before. What would cause such coloring, just a "freak of nature" or what?

James Smith, Jr., Pine Hill

• Please see Prof. Hamilton's article in this issue.—Editor

Residual DDT

Gentlemen: I recently heard someone mention that D.D.T. is presently being mixed with plaster in new construction work, as an insect repellent. I don't know how much truth there is in this, but it got me to thinking that if it is so used it might be possible to mix it with paint. You could then paint your screens and outside boards with this and have no more fly trouble. You'll excuse me if this sounds fantastic, but I'd sure like to know if any research along this line has been made or if any such product exists.

S. B. Artale, Brooklyn

• According to "Insect Control By Chemicals," by A. W. A. Brown, D.D.T. may be effectively included in paints and washes for the treatment of walls to make them residually insecticidal. This stratagem is successful with casein paints, calcimines, and chalk whitewashes. In limewashes the D.D.T. is decomposed by the alkali, but if enough insecticide is added it may retain its toxicity for at least two months. A concentration of 3-5% D.D.T. in flat oil paints is very effective. With enamel paints the insecticide is sealed off by the glossy outer film, but these paints may nevertheless be rendered effective if as much as 20% D.D.T. is added.

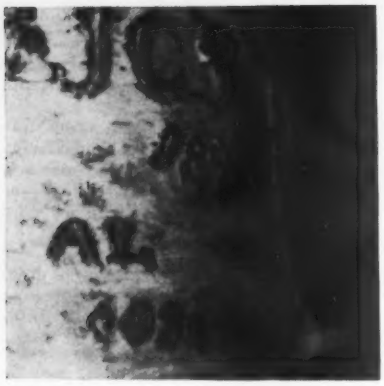
Write the Bureau of Entomology and Plant Quarantine, U. S. Department of Agriculture, Washington, D. C., for more information.—C. J. Yops

Japanese Deer

Dear Sir: I have never seen or read of newcomers to our State which, with protection, should be here for a long time. They are Japanese deer that a few years ago were imported by a woman near Yorktown Heights and caged in a large wire area. But in time the wire rotted and the deer were free to roam. They have increased in number and do not seem to want to leave the area, which makes them easily caught in snow by dogs during the winter months.

The deer are small—which the picture I am enclosing will show. I picked up the picture while I was in Okinawa with the U. S. Marines. I found one of the deer in the winter of 1946 killed by dogs; it had four points and was as big as a large police dog.

Joe Campanella, Croton-on-Hudson



For the Record

Dear Editor: With further reference to the old yellow birch tree near Grassy Brook in the Cedar Lakes vicinity: Since the Feb.-Mar. issue of THE CONSERVATIONIST was distributed, several of my neighbors here in Speculator have advised me that the initials "AL", date "1891", are probably those of Abe Lawrence.

"Abe" was our first Forest Ranger or Protector up in this section—'way back around 1905-1910—and formerly ran a hunting and fishing camp at Mason Lake on the Speculator-Indian Lake road. This camp was on State land and he was obliged to vacate and sign a disclaimer of title in 1915, and moved up to "The Whitehouse" on West River, nine miles from Wells.

Abe died many years ago. He was the father of Jim Lawrence, our present Ranger at West Canada Lake. Jim knows the birch tree in question well, and advises there are several other initials and dates on it besides those mentioned, including "O. G." and an illegible date which he thinks are those of Orrin Griffing, another old hunter, trapper and guide who frequented this section.

Al. King, N.Y.S.C.D. Forest Surveyor (ret.),
Speculator

Spring Woodchucks

Gentlemen: Every year about now the members of our gun club have a harangue about when is the proper time to go woodchuck shooting.

Once and for all I would like for you to clear this matter up for us. When can we go woodchucking without fear that the pups or kittens or whatever the young are called, will starve without their parents? When are the young born in the southern part of the State, and about how old must they be before they can take care of themselves?

Manuel S. Albuquerque, Jr., Jamaica

• *Woodchucks in this State are born from the first week of April to the middle of May. At an age of approximately six weeks, they start foraging for themselves, but up to that time, their diet consists almost wholly of milk. Therefore, beginning about the middle of June, one could hunt adult woodchucks without fear of leaving the young to starve in case the mother were taken.— E. L. Cheatum*

Opening Day

Gentlemen: On reading your most satisfying April-May issue tonight, I am much interested in an article on page 3 entitled "Hunting Safety." Here in Vermont there is a movement on foot to start each deer hunting season on a Saturday so that more hunters could participate on the first day—both young and old.

I have tried to find data which would bear on this subject from a safety viewpoint but have not succeeded. Perhaps you have some data for New York State or elsewhere which would show whether there are more accidents (so-called) when the deer season starts on a Saturday or Sunday than when the season starts on a weekday (other than Saturday). As you know, our Vermont deer hunting season now starts on a given date without relation to the day of the week, but our Fish & Game Dept. has no record of hunting accidents.

W. B. Hartshorne, South Newfane, Vt.

• *New York operates on a calendar basis too, with opening day falling where it may during the week—except that no Sunday deer hunting is permitted in certain regions. We have no statistics such as you seek, but you might obtain them by writing the National Rifle Association, 1600 Rhode Island Avenue, Washington, D.C.—Editor*

Opening Hour

Dear Editor: In your issue of April-May, you have a letter from H. Wayne Davis, under a heading "Opening Hour." It states that we begin deer hunting at 9 a.m. instead of the usual 7 a.m. I believe this to be incorrect. Kindly check your hunting regulations and reply.

Martin J. O'Connor, Franklin Square

• *In counties having an open season longer than six days, deer may be taken from 7 a.m. to 5 p.m. on opening day and every other day of the open season. But in counties having an open season of six days or shorter, deer may be taken on the first day of the open season from 9 a.m. to 5 p.m., and on each day of the remainder of the season, from 7 a.m. to 5 p.m.—Editor*

Size Limit on Trout

Dear Sirs: Especially interesting to me was your article on the proper legal size limit on trout. Every state is certainly faced with that same problem. Here in Connecticut, as you know, we are experimenting with a no-size-limit season because of just such reasons as you discuss. With the many small streams, small fish, and the adverse effect of excess handling of undersized trout caught by the inexperienced anglers on these streams such measures would certainly be necessary—but with no size limit at all I should think this would be a bit too drastic—as you suggest.

Edmund K. Swigart, Southport, Conn.

Paradox Lake

Dear Editor: The spread on Lake Paradox interested me particularly, as I have long been familiar with this section. But Mr. Pfeiffer should look up "Paradox" in the dictionary, for it is not an Indian word, but comes from the Greek *para* (against, contrary to), *doxa* (opinion); something contrary to common sense; contradictory, or seemingly self-contradictory. Paradox is a philosophical notion familiar to the ancient thinkers and the word is still a useful one in anybody's vocabulary. Anyway, if Mr. Pfeiffer wasn't familiar with it, you should have spotted it. Words are like snowshoe rabbits, aren't they? They put on protective coloration and then they get by, hiding in their context.

We have always been especially intrigued by the name of Lake Paradox, because for many years, on its shores was the summer home of our dear old friend, Edward Herrmann, a noted philosopher and theosophist.

Ilse K. Dunbar, Kingston

Duck Parasite

Dear Sir: I'm quite an avid duck hunter, and occasionally I've come across a Black duck which has quite a number of yellow or white spots throughout the meat. They seem to look like insect eggs—about the same size and shape of grains of rice. Can you give me any information as to what they are and if the meat is edible.

Stan Hirschfield, New York City

• *The muscle spore—a fungus parasite fairly common in both blacks and woodducks. Cooking renders the duck edible.—Editor*

Surveyors, One to Another

Sir: I read with great interest the article of Mr. A. H. King "Old Corners—and Lot Lines" and I should like to correspond with him about forest survey and forest history problems if he wishes it also.

Would you be so kind to send him my letter because I don't know if the address "Speculator, N. Y." is sufficient!

R. B. Hilf, Director,
Forstgeschichtliches Institut
Der Universitat Freiburg, Germany

Tip on Dobson

Dear Editor: Here's a tip to save on dobson, for any fisherman. You can use one dobson at least nine or ten times by putting a small rubber band around the dobson's collar, and using a catgut hook. When a fish or bass takes it, the fish will push the dobson up the hook. It can be used this way nine or ten times without injuring the dobson. Try it. It really works.

Donald M. Rice, Scotia

Map Reading

Dear Sir: With reference to the enclosed letter ("Map of the World", Feb.-Mar. '54), it occurred to me that you suggest to Mr. Wittman that Consolidated Vultee Aircraft Corporation, way back in 1943, turned out a beautiful booklet entitled "Maps and How to Understand Them." The booklet will answer most of Mr. Wittman's questions if he or you can still get a copy of it. It's worth reading.

James U. Steinfirst, Editor,
The American Automobile

More on That Panther

Dear Sir: I read with keen interest the letter on page 26 of the April-May, 1954 issue, in re the "maned mountain lion."

May I respectfully suggest to Mr. Paul E. Dorchester of Jefferson County that he is missing a good bet? I feel sure that Mr. Dorchester could make a comfortable living telling such "hair-raising stories" to the bald-headed sportsmen of N. Y. State.

Sheldon Brown, Hamburg

Dear Editor: After careful consideration of all the pertinent circumstances I have determined to acquaint you with the whole truth in the matter of the Henderson Harbor panther, subject of a Back of the Book item in the April-May issue.

The fact is, and has been common knowledge locally since last fall, that not just one, but three panthers are at large in the vicinity. In addition to the sneaky brown one with the mane and tassel, exactly as described by Mr. Dorchester, there is a dingy yellow one who sheds hair copiously, as well as one of the common black variety so often seen throughout the country from Los Angeles to Boston. Each maintains an approximate territory: The brown one around shoreline cottages, the bold black one often suddenly appearing and disappearing on the village streets, while the mangy yellowish one, probably sensitive about his appearance, lives a retiring life back in the woods. And though fear or excitement at seeing these fearsome animals might possibly cause some confusion of identification, there can be no slightest doubt of plurality, since all have been seen practically simultaneously at points several miles apart, and their frightful screams and yowlings have been heard in the same manner, particularly near the highway and on Saturday nights.

No great alarm was felt when these creatures eluded hunters last fall because it was thought that with the coming of snow they could be readily tracked to their lairs and destroyed; however, aided by a light winter of little snow, these fiendishly clever beasts were able to set their pursuers at naught by somehow avoiding leaving any tracks; as some thought, by jumping from rock to rock and from one patch of bare ground to another, though it is my personal opinion, unsupported by evidence, that they might more likely have accomplished the greater part of their travelling by prodigious leaps from tree to tree, like gargantuan squirrels. However that may have been, the fact remains that not even one of them has yet been destroyed, and now that so many of the local sportsmen are fully occupied with their regular springtime pursuits of spearing bass and shooting ducks, I can see no immediate hope that any of them will be. It seems quite beyond reasonable hope that all three should be of the same sex, and since I presume their natures to be similar to the ordinary house cat's, it appears inevitable that by summer the entire area will be overrun by panthers of all sizes and colors.

So, as you can see, your article was dangerously incomplete; and doubtless the long silence of all concerned in this affair has been prompted by the commendable motives of preventing public panic and preserving the tourist business so important economically to this summer resort. Nevertheless, I feel that it is only fair play to make the facts public knowledge so that our summer friends can make each his own decision as to whether the unquestioned charms of Henderson Harbor outweigh the possible perils, not only to self, but to wives and children and the family pets. The General Electric Company is reacting to the emergency with characteristic vigor by shoring themselves up safely out on their island, and I might add, for those readers engrossed in world affairs, that the Duck Island camp of Secretary Dulles is safe past any question, far out in the lake. But unfortunately there will not be nearly enough islands to go round, and most will have to take their chances on the mainland—at least, all late comers. I must regretfully confess that I have until now, after the beginnings of this horrid affair appeared in print, remained silent myself, though wrestling with my conscience all winter.

William Polk, Adams

Dear Sirs: Sometime after the spring of 1921 my wife saw two panthers go through McKeever. They were going fast. I thought she was nuts. The next day the Utica Press had a write-up and pictures of same. I think they were killed around Saranac Lake.

No doubt the UP morgue will have copy of same. I would guess 1922-23-24, and in the fall.

R. D. Nash, McKeever

• *We contacted the UP morgue, but it doesn't include items that far back.—Editor*

Chinkapin

Dear Editor: Can you tell me if the Chinkapin or chinquepin, which is plentiful in the South, grows wild in New York State? And if so where? Also, being a relative of the chestnut, is it subject to the chestnut blight? Furthermore, has there ever been an attempt to cross the two?

Take plenty of time on this one, as I have been unable to find out the answer to any of these questions from other sources.

Dr. L. H. Copeley, New York City

• *You inquire whether the Chinkapin grows wild in New York State. So far as we know, it does not. The report of the State Botanist, which I quote, states that it "has not been known to occur as a native in the State within the past century, although it probably occurred sparingly on western Long Island in colonial times." The Chinkapin is actually a species of chestnut belonging to the genus Castanea, as does the true American chestnut. The Eastern Chinkapin is susceptible to the blight, though not commonly infected, but the so-called "Golden Chinkapin" of the Pacific Coast, which belongs to a related genus Castanopsis, has not been found diseased.*

I believe the Chinkapin has been crossed successfully with Asiatic chestnuts in an attempt to develop resistant strains. You can find out more about this by writing to Dr. E. J. Schreiner, R. F. D. 2, Laurel, Maryland. —E. W. Littlefield.

Wasp-Lovers' Club

Dear Editor: There's surely something to be said for your comments on Page 1 of the April-May issue. However, I feel that there must exist, some place, a Clayt Seagears' Fan Club. If you haven't heard of one, this is to let you know that right here is the president and only member.

Are there any applicants?

Mrs. M. Edwards, Montgomery

• *We doubt it; the dues would be too high, and members would be expected to love wasps.—Editor*

New Syllabus

Gentlemen: Will you please send me a New York Fish and Game Syllabus for 1954. I already have my license No. 114352 F, but did not receive a law book at that time.

William McCalip, Staten Island

• *The Department receives literally hundreds of similar letters every year. We cannot publish a syllabus until the Legislature, and then the Governor, have acted upon Conservation bills. The Legislature adjourned March 18 this year, and we started shipment of the syllabus April 8. Not bad, we think, considering that we have to print about one million of them.—Editor*

It Saiz Here:

Dear Editor: The next time your proof reader asks for a raize amaize him with a few displaiz of his waiz of spelling "maze." (Feb.-Mar., 1954, page 21, column 1, last paragraph.)

Your magazine is tops.

Irving Davies, New York City

Ducks in Trouble

Dear Editor: I thought you might want this for THE CONSERVATIONIST. On March 2 of this year I observed these two ducks at Carr's Cove, Cayuga Lake, and they appeared to be fastened together. Going out on the Cove in a rowboat, I had little trouble catching them.

I found that the Coot had a No. 4 fish hook through its leg to which was attached a three-foot gut leader, which was twice around the body of the female Red-head and once around the butt of its right wing. This allowed them to get no more than approximately six inches apart. They had evidently been in this situation some time, as they were very weak and unable to fly upon being released.

Henry C. Carr, Game Protector, Union Springs

Steeplejack 'Possum

Dear Sir: Having read about 'possum in THE CONSERVATIONIST this month, thought you might be interested in the enclosed clipping from the Rochester *Times-Union*. 'Possums are becoming numerous in this section.

W. J. Melvin, Rochester

"Opossum Brood Plunge to Death From Big Stack"

A mother opossum fell about 275 feet to its death this morning from the towering south smokestack of Kodak Park.

"How long the 'possum had clung to its windy perch three-quarters of the way up the 336 foot stack was not known. It first was seen about 7:30 a.m. today. It missed its footing and fell about 10 a.m.

"Kodak Parkites theorized the 'possum might have made its way up from the Genesee River gorge. But why it went up the stack is a mystery.

"The 'possum had made its way up the lightning rod cable on the stack. Several baby 'possums were found dead in the mother's pouch.

"Park workers paused in their rounds before the plunge to watch the animal, reduced to tiny size by the height of the stack."

Lost and Found

Dear Editor: Having been a subscriber ever since the first issue of your magazine (and have every issue published to date) I had something happen to me last week that I feel deserves the attention of you and Commissioner Duryea.

I went to the Conservation Office, 428 South Salina Street, Syracuse, N. Y. to purchase my fishing license. Mr. M. L. Callaghan issued same to me. The following day I received the attached letter from Mr. Callaghan which speaks for itself. I feel that it demonstrates the honesty and sportsmanship not only of Conservation Department employees but 100 per cent of all State employees. I sincerely hope that you may find space in "Letters to Editor" section of THE CONSERVATIONIST for both this letter and the attached letter from Mr. Callaghan, written from Conservation Department Syracuse Office.

J. G. Van Nortwick, Syracuse

Dear Mr. Van Nortwick: After you left our office yesterday, I found the enclosed quarter on the floor.

As our cash was 25¢ over this morning, I assume it belongs to you.

M. L. Callaghan, District Game Protector, Syracuse

Bald Eagles

Dear Editor: In your April-May issue, you printed the letter of Bob Whalen from Ossining concerning bald eagles he saw on Croton Point. During the winter months I have also seen bald eagles off Croton Point. With a telescope or a good pair of binoculars they may be seen sitting on the cakes of ice floating in the river. I have seen as many as ten or twelve in one day there.

Bill Langhaus, Tarrytown

Exit Partridge

Dear Editor: Enclosed please find a snapshot study of a partridge's take-off in the snow. Evidently, he had spent the night under the snow, and had burst out in the mid-day. The picture was taken near South Bay, Washington Co. The wing marks scratched in the snow impressed me.

Walter Baker, Glens Falls

Club posting

Dear Sirs: This is just a letter to register the feelings of a group of sportsmen who have been sadly disappointed and disgusted with other so-called sportsmen.

Eight of us drove between 160 to 200 miles at night so that we could be in good deer country, to hunt them with bow and arrow. We traveled to Sullivan County. Yes, the place was covered with deer; we saw them just about every place we looked. But much to our disgust we were unable to take one shot at a deer of any kind. The reason for this being that all the land was posted.

It would be safe to say that 90 per cent of the land was posted by the sportsmen's clubs around that part of the country. We stopped to ask one of the land owners if we could hunt on his land, and his reply was that he couldn't hunt off of his land (because so much of the surrounding land was posted) and therefore he wouldn't let anyone hunt on his. He also stated that the membership fee was so high that very few would join; it seems that the fee was ten dollars. We were also told that some Scout camp had opened its land to hunting and charged three dollars a head. This camp was located near White Lake.

We also asked the grounds keepers if we could hunt on some of the land owned by some wealthy people, and were informed that they only let a selected few hunt there. If all these individuals are allowed to charge fees to hunt State-protected game, what is the use of us buying a license? I happen to be the president of the local sportsmen's club, and I am sure that if our club voted to post our land I would be one of the first to resign. This is not only the feeling of myself, but of the whole group. It is not the individual we are angry with; it is the group who call themselves sportsmen and form that type of organization.

Stephen Cimbrinski, Richfield Springs

Promotion

Dear Editor: I noticed the envelope in my CONSERVATIONIST with space for ten subscriptions, and I thought I would take it to the office and see if any of my co-workers would be interested in subscribing. I found that many of them have never heard of THE CONSERVATIONIST. Among them were two Scout leaders who were very much interested and gave me their subscriptions.

I continued to contact the men in my office and I received a total of 35 subscriptions. I am sure that if other subscribers would do the same thing they could also sell THE CONSERVATIONIST (and Conservation) to their co-workers and would do them a great favor in getting them acquainted with this magazine.

Enclosed find a check to cover subscriptions for the 35 subscribers.

Zenus G. Barnum, Johnson City

• *That's the only kind of promotion we have, and we certainly appreciate it.—Editor*

For outlanders too

Dear Sir: I love your publication as I have never loved another. My wife probably has grounds for an alienation suit. It is a fine service of the Department to permit us outlanders to subscribe without restrictions. Best wishes to you in your work on the magazine and to the Department in its efforts to secure a more enlightened and realistic Forest Preserve amendment.

Malcolm E. Smith, Falls Church, Va.

• *This gives us an opportunity to answer a lot of questions about who may subscribe. The answer is: Everybody, anywhere—provided they've got one dollar. No charge for mailing.—Editor*

More about chestnuts

Editor: I noticed picture and article on p. 38 of Dec.-Jan. issue relative to the good old chestnut tree. I get the impression that Mr. Satterlee places this particular tree in the class of the American chestnut, but I am very positive that this is of the oriental variety. I have two Chinese trees here at home which are now about 10 years old, and this fall one tree produced over a quart of nuts. Not only my trees bore nuts; the City Park Department of the City of Rochester has trees approximately 20 years old. The type of nut and burr are similar to the old American variety—but there the resemblance ends. Whereas the native tree was one of our best timber breeds, the oriental is of the bushy type, starting to branch out at about 1'-2' above ground level.

I saw some Italian chestnuts in a store recently which were fertile (showing sprout), and I have planted several as a tryout.

Mr. E. W. Littlefield is very correct in saying that the growth springing up from old roots is licked before it starts. It's certainly a shame to see the old gaunt giants in the woods surrounded by a mingled mass of dead, dying and struggling shoots which never get above 7 or 8 ft. high before conking out.

R. N. Minard, Rochester

Roughage

Dear Editor: In the gizzard of a pheasant I killed last fall, a glass alley (marble) about the size of my thumb nail was found. First, I cannot understand how the bird could have swallowed it because of its size, and second, neither can I figure out how this object could be passed through the extension from the gizzard to the tract leading to the colon.

The bird was not unusually large but compared favorably in size with other birds I killed last season.

David L. Wood, Syracuse

• *Gallinaceous birds in general often pick up small objects such as pieces of glass, coal, cinders, etc. In the present instance, the marble was a large object for the bird to swallow, but regarding its passage into the intestinal tract, it probably would never have left the gizzard. Usually such objects are eventually ground down to relatively small size before leaving the gizzard, but when this does not happen, they remain in the gizzard. —Robert W. Darrow*

Colvin

Dear Mr. Miller: I enjoyed your little article on Verplanck Colvin in THE CONSERVATIONIST. I am doing a history on Hewitt Lake (our summer place—Lot 108, Township 26, Totten and Crossfield's Pur.). On top of Hewitt Mt., imbedded in some bare rocks, are bolts and large hooks, such as would hold up a small superstructure. Could these be the remains of one of Verplanck's surveying towers? Could you tell me about when he was in this area?

There is a clearing east of Hewitt Mt. called "Lynch's Clearing." Could this have been named after Dan Lynch?

G. L. Stewart, Princeton, N. J.

• *I took up your inquiry with our Mr. Al. Davis, surveyor for our Division of Lands and Forests, who is more familiar with the territory than I could ever be.*

The marks which you describe are undoubtedly the remains of a survey signal tripod. Such a signal was used for triangulation purposes, and also it was tied in or located in relation to the old Township lines. On Hewitt Mountain such a signal was constructed under Mr. Colvin's supervision Sept. 18, 1896. Four iron ring bolts in the rock of the mountain summit anchored the signal. A drill hole in the rock was centered under it. The apex of the signal was 24 feet high, and its total height was 34 feet. It stood as the needle pointed 1898, N. 26° W. 38.30 chains measured along the division line between Townships 26 and 30, then at right angles thereto N. 64° E. 27.50 chains to the signal.

These measurements were made by Dan Lynch. A nickle bolt was set in a rock 16½ feet from the north shore of Hewitt Pond in the Township line. One was also set 34½ feet from the south shore of the pond. From bolt to bolt across the pond the distance given was 3,126 feet.—R. B. M.

Dear Editor: Thank you and Mr. Roland B. Miller for the interesting article on Verplanck Colvin.

Hay Fever

Dear Sir: I understand that your department prints a map showing the pollen count in different areas in the Adirondack Mountains. My son suffers from ragweed pollen and we are planning our vacation in late August this year so that we may take him somewhere to get relief from this suffering. We have heard of a place at Piseco where the rates are reasonable, an important concern of ours, but felt we should check on the pollen count there to be sure it will benefit his condition.

Mrs. Leroy Webb, No. Tonawanda

• *We have no such map, but we have this from the Health Department:*

The New York State Department of Health has for the past few years maintained stations for the collection of ragweed pollen at a limited number of locations in the Catskill and Adirondack Mountain areas, and the Ulster County Health Department and the Suffolk County Health Department have operated those in their respective counties. The results can be considered only an index of the condition of the atmosphere in the section adjacent to each station, or included in an area bounded by a series of stations. Because of variation in atmospheric, meteorologic, and other factors, the results secured during one season at any particular station cannot be considered a direct indication of the condition of the air in that location a year later. They do give general information, however. Studies of pollen other than ragweed are not undertaken.

RAGWEED POLLEN INDEX--1953

Location of pollen collecting station	County	No. of days with counts of 25 or greater (hayfever days)	Maximum daily count	Total seasonal count	Ragweed pollen index
Blue Mountain Lake	Hamilton	0	22	170	1
Indian Lake	Hamilton	2	78	350	5
Long Lake	Hamilton	0	22	186	1
Newcomb	Essex	7	78	558	11
Old Forge	Herkimer	6	146	582	10
Raquette Lake	Hamilton	7	46	410	10
Saranac Lake	Franklin	11	578	1890	26
Speculator	Hamilton	9	278	1044	17
Wanakena	St. Lawrence	6	128	516	10
Big Indian-Oliverea	Ulster	3	58	322	5
Phoenicia	Ulster	11	132	1047	17
Pine Hill	Ulster	1	28	282	3
Pine Hill-Funcrest	Ulster	1	36	216	2
Zena	Ulster	6	114	524	10
Fleischmanns	Delaware	7	88	614	11
Margaretville	Delaware	12	170	1248	20
Kauneonga Lake, Bethel Tn.	Sullivan	31	240	2678	47
Liberty	Sullivan	8	94	728	13
South Fallsburg	Sullivan	32	432	3454	54
Yulan	Sullivan	12	78	786	17
Montauk Point	Suffolk	4	48	376	6
Ocean Beach, Fire Island	Suffolk	9	114	904	15
Albany	Albany	31	710	4616	61
Utica	Oneida	24	328	2242	38

Daily counts of 25 or above have been shown to cause hayfever symptoms. A locality with an index of 5 or less is considered a "practically free" area; one with an index of 5 to 15, a "moderately free" area; counts above 15 indicate heavy contamination with ragweed pollen.

My great uncle, Squire H. Snell, was one of the forest surveyors who helped Mr. Colvin find the old line on West Canada Creek in Herkimer County, as described in "The Report on Adirondack and State Land Surveys" by Colvin in 1884. His son, Sidney H. Snell, took measurements.

My father, Squire H. Oliver, surveyed for Mr. Colvin in the Adirondacks. I remember he would be gone a month at a time on surveying trips. I still have some business letters from Mr. Colvin.

Mrs. Spencer Burdick, Glenfield

Conspiracy

Dear Sir: The article appearing on page eleven of the current issue of THE CONSERVATIONIST ("Conspiracy," April-May) was of such great apparent interest to police officers that copies have been made and distributed to the more than six hundred police chiefs and sheriffs in New York State.

It is hoped and expected that greater familiarity with the novel method of proceeding against violators of the Conservation Law will result in improved enforcement and more careful observance of Conservation rules.

With sincere thanks for an excellent informational item.

James R. Barrett,
Chief, Police Bureau,
State of New York Executive Dept.

Credits

Second cover, S. R. Stoddard; pages 3, 4, 6, 7, 16, 19, 20, 21, 25, 26, 32, H. Wayne Trimm; 9, Harry Darbee; 10, 11, 24, David G. Allen; 14, 15, John R. Greeley; 17, Ellen Edmonson; 22, 23, Don Stanton; 29, Buffalo Evening News; 4th cover, N. Y. S. Museum.

The Inside On The Outdoors Series

Bootstraps Farm

No. 2—The Pond

ONE month ago the first 200 yards of view from the east windows of what is laughingly referred to as my farm house was disgustingly filled with a brush jungle. This luxuriant mass of assorted stuff was so thick and so thorny that I never had the courage, the desire or the bolo to penetrate more than a rod beyond its outer bastions. There may have been a still, an embalmed sabre-toothed tiger or a blond wood nymph (of around 18 or 19) in the middle of it for all I knew.

But today there is a magic change. That diesel darling of modern landscape-lifting—the bulldozer—was in there for 37 hours at $8 per hour.

Now, only 28 days later, the old overgrown two-acre field is nearly covered with water—eight feet of it in places. On the near side, a fine sand bathing beach replaces the vine-tangled alders. The majestic black oaks at the far rim where the hill begins are now much nearer the house—upside down.

Already nine woodducks, at least one muskrat, a whole orchestra of frogs and some deer are using the area's 1½ million gallons—all rain water drained from 25¼ acres during a reasonable average month of spring.

The development is known in conservation talk as a farm pond. It cost $296 to build, exclusive of $27 worth of sand for the beach. I can't imagine how else anybody can get so much for such a comparatively small investment.

I figure it will virtually double the value of this marginal farmstead. It provides fire protection. It will be great stuff for swimming. Later, 400 yearling trout will be bought to stock it. But best of all, perhaps, it's a very contenting thing just to sit in a lawn chair and look at it.

These assets are some of the obvious benefits to the pond's owner. But there's more to it of course. This is a top-flight conservation practice if for no reason than that it stores water on the land where none was stored before. Every pond reservoir is a retarding influence on the runaway raindrop. And each helps lift the dwindling level of the underground water supplies which feed the wells and someplace along the line turns the wheels of commerce.

New York's millions of acres of abandoned farm land sooner or later must be put back into productive use. The mandate is, of course, the upward surge of population. This old land has hundreds of thousands of sites for ponds of all sizes and kinds of use.

No brook is necessary. Not even a spring. Under certain conditions, it is possible to have a fine pond on the top of a hill!

A few years ago the know-how to make these ponds was not readily available. Not so today.

The Conservation Department now has a far-flung corps of experts—the District Game Managers and their assistants. The Soil Conservation Service has an agent in each of the 40 counties where a Soil Conservation District has been established. All these men are specialists in farm pond construction. They can tell you where they can be built, where water lines will reach, what they could be used for and how much they will cost. Under certain conditions involving water area, use and co-operative agreement, ponds may even be built for free. The Conservation Department has a program calling for the construction of 10,000 such ponds—under an extensive plan of waterfowl management. During the past three years, 918 already have been built in 36 counties.

When touring the countryside to find this particular beat-up old place, I did so with an eye open for land contours that might put a pond virtually in my front yard. I was surprised to find how many cheap marginal properties would be adaptable.

After I finally settled for this one in November, the first line of business was to install a heating system in the frigid house. But the next was to start putting the outdoors to work.

I did this by putting it in the hands of expert land managers — all for free. I signed up with the Conservation Department as a co-operator under the remarkable Forest Practice Act (five months later I'm already in the tree-growing business — but that's another chapter); and on the pond and other angles I sought the advice of the District Wildlife Manager and signed up with the Rensselaer County Soil Conservation District. The old barn bears a sign attesting Farm Bureau membership, too.

One day the Soil Conservation Agent showed up with a soil auger—a long bit with a handle for boring deep in the ground for soil samples. The District Wildlife Manager's assistant arrived with a transit. Soil was screwed up out of the ground here and there. It would hold water without question. The transit went to work. Soon it was established that an earth dam 60 feet long and eight feet high would be just the ticket to take advantage of a natural spillway and flood a substantial area. This was perfect since I wanted to keep construction costs at a minimum and avoid concrete and pipe work if I could.

The pond's outline was staked and mapped and its capacity and drainage area were calculated by Conservation Department men—in case its content might exceed the capacity permitted for a farm pond of this type. Otherwise, a dam construction permit is required by the State Department of Public Works.

It was too late to start construction work last fall. So I had all winter to figure out where the beach would go and plan the bulldozing of sundry little bays designed to run the water up to certain physical features like rock outcrops and thus aid the eye appeal. I planned to dig the swimming area a bit deeper and push the surplus dirt up into a couple of attractive little islands. I wanted to avoid the artificiality of the usual smooth-graded saucer shape of many such ponds. And I also had the winter to whittle away at the brush nearest the dam. Otherwise it would be a tough job to dispose of it without pushing it into the structure. And that wouldn't provide the hard-packed seal necessary to prevent leakage.

And so one fine April day, Bob Perkins arrived with his bulldozer. Thirty-seven work hours later he wound up the job. And then it rained. By morning a heartening hunk of Bootstraps Farm was filled with water and I was filled with a great flood of exhilaration. Dig your own pond, brother, and find out what I mean.

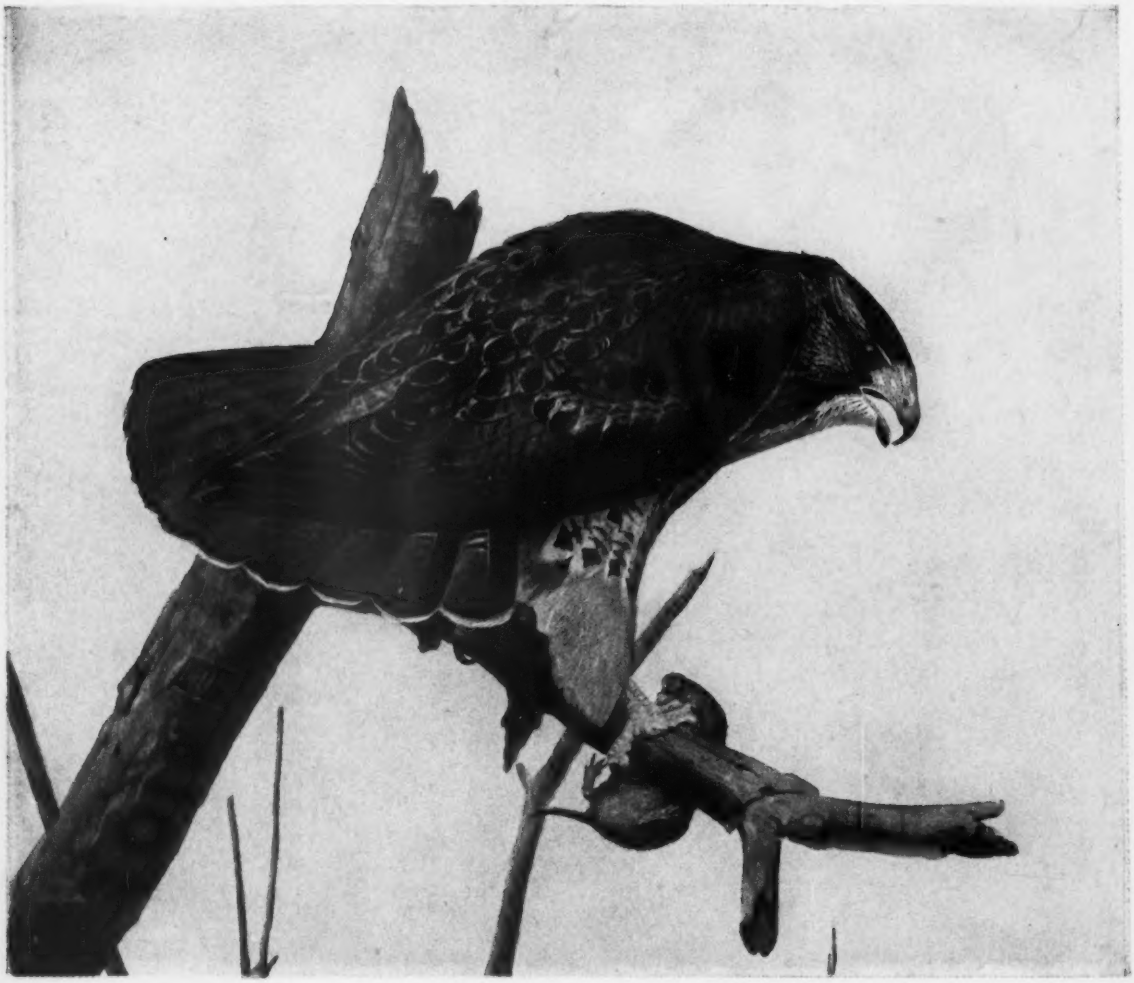
—CLAYT SEAGEARS

THE POND

Here's part of the pond in Mid-May—full one month after the bulldozer started work on the dam (out of picture at right). The big black oaks (A) are matched in the lower picture at right, showing some of the brush jungle in the foreground and middle distance. Much brush and trees still remain flooded and will be cut next Winter when a solid ice footing makes the job easier.

More matching (see B) before-and-after photos show where an island has been pushed up out of the brushy tangle—as shown below. At left around the rocks is the sanded bathing beach sloping up from an area dug out deeply for swimming. Sand should be hauled in for bulldozer to spread before pond fills. Muddy water began to clear a week after work stopped but if clay tends to keep it cloudy a ton of ordinary gypsum will provide calcium needed to keep the clay on the bottom.

Courtesy N. Y. S. Museum



RED-TAILED HAWK
Buteo borealis borealis (Gmelin)
Adult

Common controller of N.Y.S. mouse populations **(see p. 18)**